

# The Mining Journal

## AND ATMOSPHERIC RAILWAY GAZETTE,

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 581.—Vol. XVI.]

LONDON: SATURDAY, OCTOBER 10, 1846.

[PRICE 6D.]

### Stannaries of Cornwall—In the Vice-Warden's Court.

**PURSUANT** to a DECREE of the Vice-Warden's Court, made in certain consolidated causes of  
**JENNINGS and ANOTHER v. STEPHENS,**  
**TYACK and OTHERS v. SAME,**  
**HARRIS and ANOTHER v. SAME,**  
**ROWE v. SAME.**  
The CREDITORS, in respect of the PENTIRE GLAZE MINE, in the parish of Saint Minver, within the said Stannaries, are, on or before the 20th day of October next, to come in and PROVE their DEBTS before the registrar of the said court, at his office, in Truro; or, in default thereof, they will be excluded the said decree.  
Dated Registrar's Office, Truro, Sept. 29, 1846.

### Stannaries of Cornwall—In the Vice-Warden's Court.

**JENNINGS and ANOTHER v. STEPHENS,**  
**TYACK and OTHERS v. SAME,**  
**HARRIS and ANOTHER v. SAME,**  
**ROWE v. SAME.**

**IN** the matter of PENTIRE GLAZE MINE.—WHEREAS, the Vice-Warden did, by an ORDER, or DECREE, made in the above-mentioned causes, and bearing date on the 23d day of August last, order and decree that a SALE be made of the ORES and HAUVANS, and (if necessary) the ENGINES, MACHINERY, and MATERIALS, upon and belonging to PENTIRE GLAZE MINE, in the parish of Saint Minver, within the said Stannaries, under the direction of the registrar of this court; and that the proceeds of such sale should be applied by the said registrar in the manner directed by the same order or decree. Notice is hereby given, that, pursuant to the said order and decree, a PUBLIC AUCTION will be HELD at PENTIRE GLAZE MINE aforesaid, on Thursday, the 22d day of October next, and following days, at Eleven o'clock of the forenoon of each day, for SELLING, either together or in lots, the under-mentioned

#### MINING MACHINERY AND MATERIALS.—VIZ.:

One STEAM-ENGINE, 63-inch cylinder, a new boiler, 12 tons, and the first piece of rod, capstan, and shears.  
135 fathoms of 104-inch CAPSTAN ROPE—5 balance-bobs.  
A WATER-WHEEL, 36 ft. diameter, 2 ft. breast, crusher, and frame, with rollers, &c., complete.

Three horse whips and shaft tackle, whin ropes, 30, 14, and 10-inch, plunger poles and cases, several fathoms of 15, 13, 10, and 8-inch pumps, working-barrels, windbores, door-pieces, stuffing-boxes, and glands, about 70 fathoms of main and connection rods, iron and wood flat-rods, with carrier pulleys, &c., strapping plates, staples and glands, 2 cisterns and bearings, 4 English oak and wheel axles, boring machine, about 100 fms. of ladders, 2 sets of excellent iron tackle blocks, chains, and ropes, new and old iron, a quantity of new and old timber, whin and winze kibbles, water barrels, brass and iron wire sieves, wheel and hand barrows, miners' and other chests, hutchies, powder and safety fuses, 3 smiths' bellows, 3 anvils, 2 vices, an excellent mandril, smiths' and miners' tools, screwing stock, and a variety of taps and plates, hand-screws, beam and scales, iron weights, pick and shovel, huffs, brick, slate, several tons of coals, counting-house furniture, a quantity of undressed lead ore, and a variety of other materials in general use in mines.

For viewing the same, application may be made to Capt. Bishop, on the mine; and for further particulars, to Mr. Stokes, or to Mr. Roberts, solicitors, Truro.  
Dated Registrar's Office, Truro, Sept. 29, 1846.

**TO ENGINEERS, MILLWRIGHTS, BOILERMAKERS, BUILDERS, &c. &c.**—IMPORTANT SALE OF BOILERS, STEAM-ENGINE, MACHINERY, IRON PIPING, CISTERNES, &c. &c.—MR. STAMP has received instructions from the proprietors of the SUGAR REFINERY, situated in the GROVES, at HULL, to SELL, BY AUCTION, on Wednesday, Thursday, and Friday, the 14th, 15th, and 16th days of October, 1846, at Ten o'clock each day, the

#### WHOLE OF THE PLANT.

consisting of a STEAM-ENGINE, of 30-horse power; FIVE BOILERS, of 16, 20, 20, 25, and one of 40-horse power; TWO SUGAR MILLS, a STEAM-CRANE, and several other cranes; several sets of PUMPS, with 12-inch diameter cylinders; a vacuum pan, with apparatus; large copper cisterns, two large iron cisterns, a great number of wood cisterns, lined with copper and lead; several iron doors, iron shaftings, with various sorts of spaw-wheels attached; an immense quantity of iron piping, of from 1 to 7-inch bore; about 5 tons iron weights, with various other articles and utensils used in the trade.

Also, the BRICKWORK and SLATING of TWO BOILER-HOUSES, a large OCTAGON CHIMNEY, 115 feet high, with ornamental base and capital, the BUILDING used for manufacturing charcoal, with a SMALL CHIMNEY, 40 feet high, SEVEN large BRICK RESERVOIRS.—The lots will be on view three days previous to the sale, and catalogues may be had one week previous, on application to the auctioneer, 12, Market-place, Hull.  
N.B.—No person will be admitted to view, or to the sale, without a catalogue.

**MR. GEORGE WHITE** is instructed to SELL, by PUBLIC AUCTION, on Thursday, the 22d day of October, the whole of the very valuable MACHINERY, at BATSTONE MINE, near LEE, in the county of Stafford, comprising a large WATER-WHEEL, 18-feet diameter and 9-feet breast, with cast-iron axle, crank centres and arms, with connecting-rod; engine beam, drawing machine, large pentagon, with roller paddle; 40 yards of 10-inch PUMPS, with rods, clacks, buckets, &c. &c.; 22 yards of 8-inch pumps; 27 yards of 5-inch pumps, with clack, bucket, bolts, &c., complete; a set of castings for tea-bob; several pumps, 12-inch bore; about 400 yards of 11-inch square wrought-iron rails; 150 yards of 11-inch round iron; a new grinder, with double rollers; capstan, with oak spindle; anvil and smith's bellows; about 50 yards long of 1-inch chain, iron gear, barrows, and iron waggons, a large quantity of brass wire sieves, crossing tubs, wood sheds, and numerous other articles, which have been recently erected, regardless of expense.

The Batstone Mine is situated only a few miles from canal conveyance, which communicates to all parts of the kingdom.  
The Sale to commence precisely at Eleven o'clock.

**LIFFORD CHEMICAL WORKS AND FREEHOLD** ESTATE, situated at King's Norton, near Birmingham, bounded by the Birmingham and Worcester Canal, and intersected by the Birmingham and Bristol Railway.—TO BE SOLD, BY AUCTION, by E. and C. ROBINS & CO., on Thursday, the 15th day of October next, at Four o'clock in the afternoon, at Dec's Royal Hotel, in Birmingham, subject to conditions then and there to be produced (unless in the meantime an acceptable offer be made by private contract, of which the earliest possible notice will be given).

**LOT I.**—The above-mentioned well situated, extensive, and complete WORKS, adapted at great cost, for the manufacture of Sulphuric Acid, Alkali, Aquafortis, Roman Vitriol, and other chemicals—established many years ago by the late Mr. Dobbs, and since continued, and most extensively enlarged and rearranged, by his successors. The situation was selected on an eligible one, on account of its command of land and water carriage to and from all parts, both for the supply of materials to the works and the dispatch of the articles manufactured. The site, comprising about six acres, is bounded by the Birmingham and Worcester Canal, to which it has about 16 boat-lengths of wharfage, by the Bristol and Birmingham Railroad (close to the King's Norton Station on that line), and by the high road from Birmingham to King's Norton—against the whole length of which is a lofty brick wall, and from which are approaches by gateway entrances.

The establishment is of a most complete and extensive character, consisting of various lead-houses, laboratories, resort-houses, condensers, receivers, furnaces, vats, kilns, chimneys, upwards of 200 feet high, and the various other buildings and arrangements necessary in storing, compounding, and manufacturing; together with the steam-engine, warehouses, dwelling-house, counting-house, workshops, &c.  
The land not occupied by the works has under it a valuable mine of brick earth, and there are suitable arrangements of kilns and sheds for the manufacture of the same, and considerable portions of the land may be appropriated to general building and wharf purposes.—The above property, although especially adapted as chemical works, is, from a variety of circumstances, well suited for many other large manufacturing establishments, such as glass, foundry purposes, and a general railway carriage and fitting manufactory.

**LOT II.**—A piece of OLD TURF LAND, about three acres, adjoining Lot I., except by the intersection of the railway, but communicating with it by an archway, bounded by the Worcester and Birmingham Canal (to the extent of about eight boat-lengths), and by the road from Lifford to Birmingham, extending from the railway to Breodon, Cross-bridge, and suitable for the erection of large works, and for general building purposes.

The whole is freehold, and early possession may be had.

The works and property may be viewed only by a card from the auctioneers.

For any other information, apply to Messrs. Bridges, Mason, and Bridges, solicitors, Red Lion-square, London; or to the auctioneers, New-street, Birmingham.

**LEAD MINES, INVERNESS-SHIRE.**—The attention of CAPITALISTS and of MINING ADVENTURERS is invited to an extensive DISTRICT of rich and promising MINERAL GROUND, situated in the immediate vicinity of excellent roads, and within 10 miles from a shipping port, in the county of INVERNESS, which would BE LET, ON LEASE, upon advantageous terms. Under the superintendence of an experienced mineral agent, a shaft has been sunk to the depth of 30 fathoms; at the mouth of which, an engine and other works have been erected, and levels have been driven, in different directions, by the proprietor and his agents, with the view of exploring the lodes and strata, which are of a most promising character. A minute survey of the lands and workings has been recently made by an eminent mineral surveyor, whose report, with a sketch and sections of the workings, together with specimens of the ores raised, may be seen, on application, at the office of Edward Slaughter, Esq., 5, Duchess-street, Portland-place, London; and all further local and other particulars may be had upon application to Alex. Macdonald, Esq., Croyand Beaulieu, Inverness-shire, N. B.

### THE PATENT SAFETY FUSE.

**FOR BLASTING ROCKS IN MINES, QUARRIES, AND FOR SUBMARINE OPERATIONS.**—This article affords the SAFEST, CHEAPEST, and most EXPEDITIOUS MODE of effecting this very hazardous operation. From many testimonies to its usefulness with which the manufacturers have been favoured from every part of the kingdom, they select the following letter, recently received from John Taylor, Esq., F.R.S. &c. "I am very glad to hear that my recommendations have been of any service to you; they have been given from a thorough conviction of the great usefulness of the Safety Fuse; and I am quite willing that you should employ my name as evidence of this." Manufactured and sold by the Patentees, BICKFORD, SMITH, and DAVEY, Exmouth, Cornwall.

### FOR SALE—EXTENSIVE AND VALUABLE IRON-

WORKS (in close vicinity of the harbour of Aberdeen).—There will be exposed FOR SALE, BY PUBLIC ROUP, within the Lemon Tree Tavern, ABERDEEN, on Wednesday, the 4th day of November next, at Two o'clock afternoon, those extensive and valuable premises, at FOOTBRIDGE, Aberdeen (bounded on the west by the harbour), known as

#### THE DEE IRON-WORKS.

and long EMPLOYED in the ENGINEERING and MILLWRIGHT BUSINESS, and in IRON FOUNDRY, BOILER-MAKING, IRON SHIPBUILDING, BLACKSMITH WORK, BRASS FOUNDRY, &c. These works are very compact, and much more advantageously situated than many other works of the same description, for iron shipbuilding and engineering business—having a WATER FRONTAGE to the harbour, and in close connection with the other parts of the establishment—and the whole lying so contiguous, that all the branches of the business can be carried on under the same superintendence.

In the BUILDING-YARD several iron vessels may be proceeding at one and the same time, of from 200 to 2000 tons burthen; and the tools and machinery in this department are believed to be equal to any in the kingdom; there are other accommodations for carrying on this branch of business in its fullest perfection.

In the ENGINEERING DEPARTMENT, the tools and machinery are of the most improved description, and capable of constructing engines or machinery equal in magnitude to any known at the present day; and are sufficient to employ, constantly, from 100 to 150 men. In connection with this department, the building and fitting of locomotives may be carried on to the greatest extent.

The IRON FOUNDRY DEPARTMENT is fitted up in the most complete manner, and capable of turning out both heavy and light castings, and of fully employing 60 men. In the BOILER MAKING DEPARTMENT, which is separate from the iron shipbuilding premises, there is a complete set of tools and machinery, of the best description, capable of employing 150 men.

In the BLACKSMITH Shop there are 12 forges, all blown by fan-blast, with cranes attached to the principal ones, and each forge having a complete assortment of tools, for engineering, millwright, and shipbuilding purposes.

The MILLWRIGHT and PATTERN MAKERS' DEPARTMENT has a full assortment of all kinds of joiner and millwright's tools and fixtures, for the employment of 25 men, with a large stock of the most modern and useful patterns, which will be given over with the works.

There are also the necessary machinery and tools for carrying on the BRASS FOUNDRY and FINISHING BUSINESS, and PLUMBER and COPPERSMITH WORK, to a large extent.

The whole establishment, if fully employed, is capable of turning out work to the amount of £60,000 or £70,000 a-year; and having been for several years, and still being, in full operation, the purchaser will have the advantage of commencing business immediately.

The greatest facilities of communication are afforded, by regular trading steam and other vessels, from Aberdeen to London, Hull, Newcastle, and Leith, in the south; and Inverness, Wick, Orkney, and Shetland, in the north.

The extensive improvements on the harbour, now going on, and the projected railway schemes in connection with Aberdeen, afford every prospect of full employment for a work of this description for a long period to come.

If the purchaser were desirous of removing the plant elsewhere, the buildings are so constructed as to be convertible into other manufacturing purposes, at little expense, as there are three fixed steam-engines on the premises.

For further particulars apply to John Hunter, Esq., W.S., 13, Hill-street, Edinburgh; W. Robinson, Esq., advocate, 58, Castle-street, Aberdeen; or to Mr. Vernon, at the works, who will show the premises, and on application, forward a plan of the buildings, and inventory of the machinery, tools, &c.—Aberdeen, September 8, 1846.

Copies of the Plan and Inventory may be had, on application, at the office of the Mining Journal, 26, Fleet-street, London.

### TO BE DISPOSED OF, A FEW SHARES, in a very promising

COPPER SETT, situated near ST. AUUSTEL, in the county of Cornwall. This being an undertaking of recent establishment, persons desirous of embarking in mining speculations will commence under very favourable circumstances. For particulars apply to Mr. Charles Goddall, 2, Walbrook-buildings; or to Mr. Wm. Smith, 10, Warford-court, Throgmorton-street.—Sept. 25, 1846.

### TO BE SOLD, OR LET, a very complete MILL and FORGE,

capable of turning out 80 tons of bar-iron weekly. It is situated close by the harbour, at Worthington, where coals are plentiful, and markets easily accessible by sea and railway. If sold, a large proportion of the purchase-money may remain on mortgage, if desirable, to the purchaser.—Apply to Mr. Ralph Clay, Worthington; or Mr. Wm. No. 4, Water-street, Liverpool.

### TO BE LET, THE PARK-HILL MINES, DEAN FOREST,

GLoucestershire—containing ONE MILLION TONS OF COAL, and ONE MILLION TONS OF RICH IRON ORE, which, being calcareous, smelts well with argillaceous ironstone, and may be delivered in large quantities to the Staffordshire, Shropshire, and Welsh iron-works, at a price far below the cost of local ironstones. The mines are drainable by level, and can be opened at a trifling expense; and, were blast-furnaces erected, their produce might be smelted on the spot into excellent iron.—Apply (post-paid) to Henry H. Fryer, Esq., solicitor, Coleford, Gloucestershire.

### TO IRONFOUNDERS.—WANTED, an ENGAGEMENT,

by an active PERSON, thoroughly acquainted with every branch of the BUSINESS of an IRONFOUNDRY, and competent to take the entire MANAGEMENT of a CONCERN during the absence of the principal or principals. Respectable references and security will be given.—Address to "J. D. J., Dunbar's Ironfoundry, Tottenham-croft-road, London.

### TO ENGINEERS, ENGINE-MAKERS, AND OTHERS.

—WANTED, by a practical engineer, carrying on an extensive business in the manufacture of engines, boilers, railroad carriages, &c. in one of the most improving seaport towns in the mineral district of South Wales, A PARTNER, who possesses a knowledge of the business, and who can command not less than £3000 to put into concern.—Address (by letter) to "H. F., Bristol Mercury Office, Bristol.

### TO ENGINEERS, RAILWAY CONTRACTORS, MINING

AGENTS, IRONMASTERS, AND OTHERS REQUIRING FINE GREASE FOR MACHINERY AND AXLES of every description.—JOSEPH PERCIVAL'S IMPROVED ANTI-FRICTION GREASE is—after trials on machinery and axles of every kind where constant friction is kept up—admitted to be the most useful, economical, and best preparation of the kind ever offered to the public.

References to scientific and practical men can be given, and testimonials shown of its great excellence.—Samples forwarded on application at the manufactory, Green-street, Wellington-street, Blackfriars-road, London.

### CONSOLIDATED PATENT KAMPTULICON COMPANY.

Established 1843.—To be incorporated by Act of Parliament. Capital £50,000, in £10 shares, paid in full, bearing interest at the rate of 5 per cent. per annum, with a moiety of the profits divided as a bonus.

Those proprietors who have not exchanged their original for consolidated shares, are requested to do so previous to the meeting, advertised to be held on the 26th instant—extending foreign and other contracts requiring the resolutions of January last to be carried into immediate effect. F. G. GREVILLE, Secretary.

### STEAM FUEL COMPANY.—(STIRLING'S ORIGINAL

PATENT).—PROVISIONALLY REGISTERED. Capital £50,000, in 5000 shares, of £10 each. (With power hereafter to be increased to £100,000.) Deposit 1s. per share, being the sum authorised by the Joint-Stock Registration Act. The first call of £1 per share to be payable when a certificate of complete registration is obtained.

TRUSTEES—Henry Larchin, Esq., Limehouse; Samuel Rohde, Esq., Crosby-square.

PROVISIONAL COMMITTEE.  
William James Barham, Esq., Stratford  
Angus Duncan, Esq., Maidenhead, and 35, Moorgate-street  
George Knox, Esq., Islington  
William Lamb, Esq., 39, Westbourne-grove  
Thomas Patten, Esq., 3, Ingram-court, Fenchurch-street  
James Le Cren, Esq., Moorgate-street  
William Piggott, Esq., Dulwich, and 115, Fore-street  
William Henry Sams, Esq., Clare, Suffolk  
Robert Shirley, Esq., 22, Grove-terrace, St. John's-wood  
Thomas Stirling, Esq., Stratford

BANKERS—The Commercial Bank of London.

SOLICITORS—Messrs. Goddard and Eyre, 101, Wood-street, Cheapside.

SECRETARY—James Inglis, Esq.

Temporary Office, 31, Moorgate-street, London.

This company has been formed for the purchase and working of the patent obtained by Mr. Thomas Stirling, for the manufacture of artificial fuel—an article which is likely to be brought into extensive consumption, from the superior qualities it possesses for steam-boats and other purposes over the common coal, and for its greater economy, both in tonnage and consumption; the one having been fully proved to be a saving of at least 27 per cent., and the other 35 per cent., as compared with the best Newcastle coal.

The provisional committee have had an offer of premises at Llanelly, in South Wales, where the most suitable small coal may be obtained in any quantity; the company are thus enabled, with a very trifling outlay for new machinery, to commence the manufacture of 30,000 tons per annum, the profit on which may be estimated at least at £3000; to realise which the provisional committee do not anticipate the necessity of making more than two calls of £1 each; while the first call will be amply sufficient to ascertain, by practical experiment, the correct result.

Applications for shares may be made to the solicitor; or to the secretary, at the office of the company, 31, Moorgate-street; where prospectuses, with full particulars, may be obtained.

No further applications for shares can be received after the 12th instant.

### MESSRS. J. PAINTER AND CO., SHAREBROKERS,

MINING AND GENERAL AGENTS, 25, CASTLE-STREET, LIVERPOOL. AFFORD EVERY INFORMATION as to the STATE of the MARKETS, PRICES, &c., upon application.

**WILSON & FRASER, 2, WELLINGTON-BUILDINGS,** LIVERPOOL, and 13, EXCHANGE-PLACE, GLASGOW, have always ON SALE PIG-IRON, BAR-IRON, RAILWAY CHAIRS, and RAILWAY BARS.

**WILLIAM FOX AND SON, No. 53, CASTLE-STREET,** LIVERPOOL, have always on SALE PIG-IRON, RAILWAY BARS, CHAIRS, and IRON of every description.—TIN PLATES, WIRE, &c.

**WILLIAM H. SMITH, MINING SHARE AGENT,** 10, WARFORD-COURT, THROGMORTON-STREET. SHARES in many valuable MINES FOR SALE, and every information will be afforded, on application.

**WILLIAM TRENER, DEALER IN RAILWAY AND MINING SHARES.—ESTABLISHED TEN YEARS.** OFFICES, No. 50, THREADNEEDLE-STREET, LONDON.

**MR. RYE** has BUSINESS to do in Trelawney, Wheal Gill, Mary Ann, Condurrow, Craddock Moor, Kirkcubright, West Caradon, Gonamena, Old Harrowbarrow, Andrew and Nangiles, South Wheel Franchia, South Basset Devon and Courtney, Concord, South Trelawney, East Crowndale, Wheal Franco, Combarmin, and West Trelawney Mines, and West Cornwall and Cornwall Railways. 50, Old Broad-street, London.

**MESSRS. LINTHORNE, JONES, AND CO., STOCK,** MINING, AND SHARE AGENTS.

Every information will be afforded as to the markets and prices of the above, by application (post-paid) at their offices, 43, THREADNEEDLE-STREET, LONDON.

**MR. T. P. THOMAS'S MINING OFFICES, REMOVED** from No. 80, Old Broad-street, to No. 18, THREADNEEDLE-STREET.

**JAMES LANE, MINING SHAREBROKER,** 75, OLD BROAD-STREET, LONDON.

**JOHN HARVEY, SHAREBROKER AND ASSAYER,** LISKEARD, CORNWALL.

**MINING OFFICES, No. 1, ST. MICHAEL'S-ALLEY,** CORNWALL, LONDON.

Messrs. WATSON & CUELL have received instructions to PURCHASE SHARES in East Tamar Consols, South Tamar, Copiapo, East Rose, Altan, Stray Park, and Mary Ann Mines; and have FOR SALE, SHARES in all the best DIVIDEND MINES in Cornwall and Devon, paying from 18 to 20 per cent. per annum.

**MINING PROPERTY.—CAPITALISTS** who are disposed to INVEST in CORNISH and FOREIGN MINES, will find the present opportunity very favourable for so doing. From large sums having been lately diverted from such investments for railway speculations, standard mines are now selling at prices that will pay the purchaser 20 per cent. per annum for his outlay. There are also other mines that are on the eve of paying dividends, which can be recommended with confidence. Applications to be made to Mr. JAMES HERRON, mining agent, No. 3, Adam's-croft, Broad-street, London.

WHEAL CORNWALL: 100 shares. GWINEAR CONSOLS: 356 shares.

WEST PROVIDENCE: 256 shares.—[Dividend of £1 10s. per share, now payable.]

**MR. R. TREDINICK** will be happy to afford parties every INFORMATION respecting the ABOVE MINES, on personal application at his OFFICE, and proffers his SERVICES to CAPITALISTS and ADVENTURERS in the PURCHASE and DISPOSAL of SHARES of every description.

Mr. TREDINICK being in constant communication with experienced practical agents in the several mining districts, can, with confidence, recommend to shareholders, desirous of acquiring information from personal inspection of the mines, agents on whose reports every reliance may be placed.

MINING AGENCY OFFICE—THREE KINGS-COURT, LOMBARD-STREET.

### AUSTRALIAN MINING COMPANY, 1, Adelaide-place,

October 9, 1846.—The board of directors hereby give Notice, that, in conformity with the information given at the annual general meeting, held as above, on the 31th of July last, an EXTRAORDINARY GENERAL MEETING of the shareholders will be HELD at the company's offices, No. 1, Adelaide-place, London-bridge, on Thursday, the 26th day of October inst., at Twelve o'clock precisely, to receive the directors' report, relative to the selection of a block of 30,000 acres of mining land in the colony. By order of the board, G. E. HODGKINSON, Secretary.

### TRELEIGH CONSOLIDATED MINING COMPANY.

At the Annual General Meeting of shareholders, held at the offices of the company, No. 57, Old Broad-street, on Wednesday, the 7th day of October, 1846.

GEORGE B. CARR, Esq., in the chair.

The secretary read the advertisement convening the meeting; the directors' report, and financial statement, also a report from Capt. Richards, were then read.

Moved by D. Mocatta, Esq., seconded by S. Commander, Esq.,

1. That the report and accounts be received and adopted.

Moved by D. Mocatta, Esq., seconded by E. H. Lindo, Esq.,

2. That the thanks of the meeting be given to the chairman and directors, for their attention to the interests of the company.—Carried unanimously.

### NOTICE TO THE MANAGERS OF MINING COMPANIES,

SMELTING WORKS, &c. Mr. MITCHELL (late Mitchell and Field) begs to announce, that ASSAYS and ANALYSES of all descriptions of ORES, MINERALS, and FURNACE PRODUCTS, are conducted at his LABORATORY, 23, HAWLEY-ROAD, KENTISH TOWN, to which direction all communications are to be addressed.

N.B.—Instruction in all branches of assaying and mineral analysis as usual.

### ASSAYING AND CHEMICAL ANALYSIS.

MR. MITCHELL begs to announce, that his WINTER CLASSES, for PRACTICAL INSTRUCTION IN ALL BRANCHES OF ASSAYING AND CHEMICAL ANALYSIS, will COMMENCE on MONDAY, the 12th October next.—Inquiries respecting terms, &c., to be addressed to Mr. Mitchell, 23, Hawley-road, Kentish Town.

### VALENCIA SLATE COMPANY.

Capital £100,000, in shares of £10 each.

The VALENCIA SLATE QUARRIES, situated in the Island of Valencia, on the south-west coast of Ireland, have been worked on a limited scale for some years, and the superior quality of the slate, and its peculiar adaptation for sawing into slabs, have been fully established.

The demand for Valencia slabs has become very extensive. Having great strength, perfectly true surfaces, and not being affected by acids or grease, nor absorbing moisture, they have been found peculiarly adapted for factory floors, and for warehouses, granaries, maltsheds, and stores; also for prisons, hospitals, and railway stations, and for the floors, ceilings, and roofs of public buildings. The station at Birmingham is laid with Valencia slabs, and a considerable quantity is used at the Model Prison at Pentonville, and at the new Houses of Parliament.

There is also a large and increasing demand for these slabs in the colonies, for constructing floors, and for sugar-houses.

To attain the enlarged scale of production required to meet the great demand, it is proposed to increase the capital embarked in the undertaking by the admission of new partners; and to carry it on under the powers, and with the advantages, of the Act for the Registration of Joint-Stock Companies.

For prospectuses and detailed statements, showing the immediate and large returns to be secured, apply to Messrs. Palmer and Nottehip, solicitors, 4, Trafalgar-square, London.

### STEAM COAL—WITHOUT SMOKE, as per experiments

made at her Majesty's Dockyard, Woolwich. CAMERON'S COALBROOK STEAM COAL, AND SWANSEA AND LOUGHOR RAILWAY COMPANY.—(Completely Registered and Incorporated.)

OFFICES—2, MOORGATE-STREET, LONDON.

The directors are now prepared to supply steam ship companies, manufacturers, shippers, and others, with the company's steam coal, either at the company's wharf at Swansea, or in London. A statement, showing by comparative trial the superiority of this coal for steam purposes over every other, and a scale of prices, may be had on application at the company's offices here, or at their wharf at Swansea.—March 18, 1846.

### PATENT IMPROVEMENTS IN CHRONOMETERS.

WATCHES, AND CLOCKS.—E. J. DENT, 89, Strand, and 23, Cockspur-street, watch and clock maker, BY APPOINTMENT, to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1836, 1840, 1842. Silver lever watches, jewelled in four holes, 6s. each; in gold cases, from 18s. to £10 extra. Gold horizontal watches, with gold dials, from 8s. to 12s. each. DENT'S PATENT DIPLIEDSCOPE, or meridian instrument, is now ready for delivery. Pamphlets containing a description and directions for its use, 1s. each, but to customers gratis.

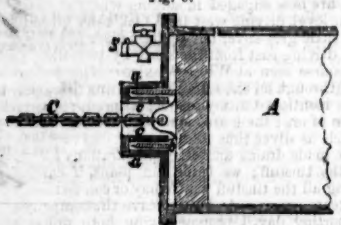


## SWINBURNE'S ATMOSPHERIC RAILWAY.

Numerous as are the plans for propulsion on atmospheric railways, not a week elapses without some effort of scientific ingenuity being displayed, with the endeavour to obtain all the available power from the engine, prevent leakage, and secure speed and safety. We this week introduce a novel and simple plan, patented by Thomas Swinburne, Esq., of Lincoln's Inn. Instead of the continuous tube, the inventor employs short lengths of propelling tubes, placed at regular intervals along the line; and the method adopted for working the trains on this principle will be better understood from an inspection of the annexed diagrams.

Fig. 1 a and fig. 1 b are longitudinal sections of the tube and its appurtenances. A B represents one of a series of tubes, perfectly close, except at the end A, which is open, and at D, where it communicates with the exhausting apparatus. H is an air-tight piston; M is a rope, or chain, affixed to a frame K K', running between guides E E, to keep it steady; P is an upright bar, bolted to the frame k k', to bring the frame into connection with the carriages. The tube being exhausted, the apparatus, as above described, is ready to propel the train; the leading carriage R, is furnished on the under part with a hinged tappet F, which will pass over the upright bar P, on coming in contact with it, but which will not allow the bar to pass back again when the piston is set in motion; there is also another tappet at G, placed at a proper distance behind the other, and so arranged, that it will give way, and allow the upright bar P to escape at any given pressure. In advance of the tappets, are attached to the bottom of the carriage two inclined planes S S; these are so fixed, that, as soon as the upright bar P has passed behind the tappet F, they may come upon the bar k', press it down, and disengage it from the shoulders I (fig. 2), when the piston will be free to move. When the front carriage is, therefore, brought up to the upright bar P, so that it comes between the tappets, and the bar k' is then disengaged from the shoulders, the piston will pass to the end of the tube, dragging the upright bar P, and propelling the train. On reaching the end B, the bar P will come in contact with the tappet G, which will give way, and the train will proceed, through the impetus it has acquired, on to the next tube A', when the second upright bar P' will pass under the tappet F, the inclined planes S S will disengage the bar k', and the piston will be set in motion, as before.

Fig. 3.



The advantages claimed by the inventor for this mode of propulsion are, that the tubes, on account of their perfect closeness, can be more perfectly exhausted; also, being of short lengths, they can be made of greater calibre; and, in consequence, of far greater power than heretofore; and he considers it will probably be found, that, with tubes of 3 feet in diameter, and 100 yards in length, the tubes may be fixed two or three miles apart from each other. Another part of this invention consists in a peculiar mode of exhausting the discontinuous traction tubes. In fig. 3, A B is a close tube, with a piston, to which is attached a rope, or chain, M—the tube being made air-tight, by means of the stop-cock I. C is another rope, furnished with apparatus for fixing to the bar k'; this rope runs over a roller N, at a suitable distance, and connected with drawing machinery, placed in a pit, and by which the piston can be pulled from B to A, leaving a vacuum behind it; on arriving at A, the bar k' will have arrived at E; and, being passed over the shoulder I of the guide, will retain the piston at A, until required to start the train. Fig. 5 shows the mode of supporting the exhaustion for any length

Figure 1 a.

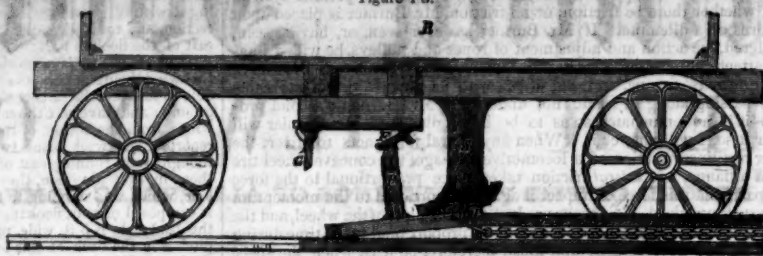


Figure 2.



Fig. 1 b.

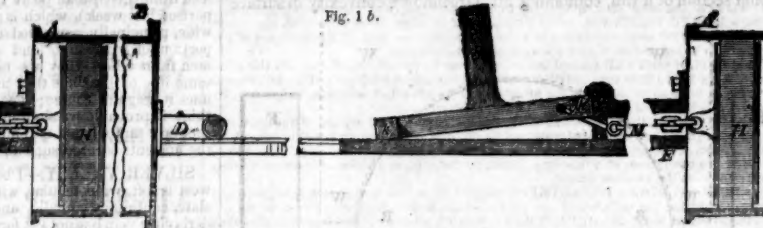


Figure 3.

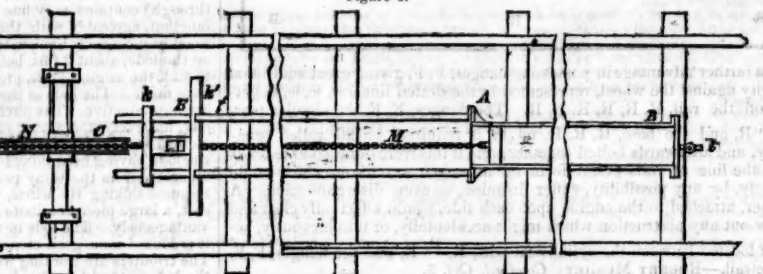


Figure 7.

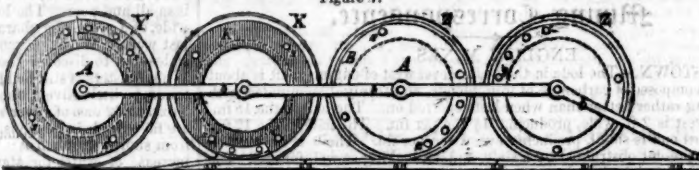


Fig. 8.



of time, by the arrangement at a, a, c, c—being one tube sliding between two others, lubricated with a greasy substance—and the tap S, which is opened while the piston is drawn up, and then closed, thus preventing any possible pressure from the atmosphere. The proposed plan of having short discontinuous tubes, instead of one unbroken length, the whole distance of the line, is a novelty in atmospheric railways; and if, in practice it should be found to answer any thing like the expectations of the inventor, an enormous saving will be the result in the first cost of construction, in the wear and tear, and in the continually recurring expenses of keeping the line in proper working condition. Figs. 7 and 8 relate to a new railway carriage, which can also run on common roads, a description of which will appear in next week's *Mining Journal*.

## WHEELER'S ATMOSPHERIC RAILWAY.

Notwithstanding the depreciating opinions of men of high standing in the engineering world, the mishaps of the Croydon line, and the unceasing tirades of a hostile journalist, atmospheric railways are still "looking up." The utmost confidence exists in the engineering talents of our time being adequate to provide a remedy for those defects which experience has shown to be inseparable from the present mode of working. The most formidable of these defects appertain to the opening and closing valve, and arise from the difficulty, or, rather, the impossibility, of keeping it air-tight under the violent action to which it is subjected, and the atmospheric variations to which it is exposed. Many different forms of valves have been proposed, each of which has been supposed by its projector to be a perfect panacea for the evils hitherto experienced. Generally, however, an opinion prevails, that the open valve must eventually be dispensed with, and a close tube be made subservient to the purpose. Some plans, indeed, contemplating this object, have been very prominently before the public; but they have, for the most part, been accompanied by evils of greater magnitude than those which they were intended to remedy. In Mr. Wheeler's recent patent for "improvements in the construction and workings of railways," the following plan is described, which not only exhibits great ingenuity, but also bids fair to realise the seeming desideratum—viz., an atmospheric railway, working by means of a piston, traversing a close tube, devoid of any valve or opening through which leakage, and, consequently, loss of power, can accrue. The following extract from Mr. Wheeler's specification will make his plan intelligible:—

"Fig. 1 represents a cross section of a 12-inch cast-iron main pipe; and fig. 2 is a longitudinal section of the same. This main pipe has a narrow angular slit, or opening, in its upper surface, which extends through its whole length, and is flanged at the ends, for joining any required number, to form a line. E E' are two horns, which support and guide a covering valve, or diaphragm, F F, of leather, gutta percha, or other suitable flexible material, which is bolted to the sides of the main pipe at G G. This diaphragm is strengthened, in the middle of its upper and under surfaces, throughout its length, with leather or other straps—one thickness being placed on the upper side, and two or more on the under side, so as to fill up the angular slit, or opening, in the top of the main pipe. These straps are further strengthened and protected by short brass or other metal plates, placed on their upper and under surfaces, and riveted through. This diaphragm, or covering valve, F, ordinarily lies on the top of the pipe, closing the opening therein, in the manner shown in the engraving, fig. 1, and making it air-tight throughout its whole length. In fig. 2, H is a piston, traversing the interior of the main pipe in a nearly

air-tight manner, and is attached to a piston frame and carriage, H'. This frame runs upon anti-friction wheels, or rollers, I I, within the tube, and carries a large internal driving wheel, K, which projects some distance above the opening in the top of the main pipe, raising the diaphragm, F, in the manner shown in the engraving, and by the dotted lines in fig. 1. L L represents a portion of the under framing of an ordinary railway carriage, beneath which, in suitable bearings, is placed the external driving wheel, M. A line of main pipes, thus constructed and arranged, being laid down between the two lines of rails, and suitable provision being made for producing a vacuum, by means of air-pumps, steam, or otherwise, in that portion of the main pipe which is in front of the piston, H, the pressure of the atmosphere behind the piston will cause it to advance with a force pro-

portioned to the extent of the exhaustion. In obedience to this force, the piston and piston-frame will move forward, carrying with them the internal driving-wheel, K, which, lifting the diaphragm, F, and impinging against the external driving-wheel, M, will cause it to advance and draw with it the carriage to which it is attached. At the hinder part of this carriage there is a small wheel, N, capable of being raised or lowered at pleasure, which follows the driving-wheels, K and M, guiding the diaphragm, F, and pressing the central strengthened part thereof into its place, in the slit, or opening, in the top of the pipe.

"It will be seen that no atmospheric air can enter the main pipe, except at its further extremity, behind the piston, by which means no loss of power from leakage can possibly occur. If it is desirable to admit the atmospheric air through the piston H, in aid of the breaks in stopping the carriage, or otherwise, it can be effected by the guard or other person on the carriage drawing back the lever O, which depresses the small wheel O'; this wheel, pressing down the diaphragm F, depresses an internal wheel, P, which, by means of the lever P', raises and opens a valve, Q, in the end of a pipe, Q', which passes through the piston. When this valve is opened, the atmospheric air will pass through the piston into that portion of the main pipe which is in advance thereof. At other times the valve Q is kept closed, and the proper position of the wheel P and lever P' maintained by the balance weight R.

"Fig. 3 shows another arrangement of the covering valve, or diaphragm, F' F', which, instead of one broad piece of leather, or other elastic material, is composed of a number of strips of such material, united at the edges, lengthwise, by rivetting, sewing, or otherwise. When at rest, the upper and broader strip of leather, or other material, which is connected to the narrower strips on each side, lies flat on the top of the main pipe, as shown in the drawing—the central strengthened part of the covering valve (which is the same as hereinbefore described, and shown in fig. 1), lying in and filling up the opening in the upper part of the main pipe. The dotted lines show the form taken by this covering valve, when it is raised by the passing of the internal driving-wheel K. These dotted lines also show the manner in which the strips of material are united at their edges, so as to form a close and air-tight covering to the main pipe. Fig. 4 is a vertical view of the top of fig. 3, showing the position and form of the metal covering plates against which the wheel M runs. In this arrangement, as in that before described, no opening is made throughout the entire length of the pipe; and, therefore, the atmospheric air can only enter at the extreme end of the pipe, whereby loss of power from leakage is avoided. The piston, piston-frame, and driving-wheels, &c., may be the same in both cases—the only difference being in the form and arrangement of the covering valve, or diaphragm, on the top of the pipe, as herein set forth."—*Mechanics' Magazine*.

## Original Correspondence.

## GREENHOW'S GEOMETRICAL RAILWAY.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—From his last communication to the *Mining Journal*, I perceive that I, among others, have incurred the displeasure of Mr. Burnier, which I very much regret, though it confirms in my mind the great truth—"Ira furor brevis est;" and proves (what, indeed, I never doubted) that an angry man cannot conduct an argument with clearness and precision. When the moody Hamlet asserted that—"When the wind is southerly I know a hawk from a handsaw"—the critics are agreed that he only feigned madness; and so it appears that, when Mr. Burnier made us believe that he did not know oval from round, he only feigned ignorance. This, indeed, might easily have been predicated from the application of his own admirable logical formula, for which I cannot be too grateful to Mr. Burnier, as I perceive it will hereafter help me in solving many a knotty argument. But to the point—*Dicimus*.—Civil engineers are excellent geometers.

*Atqui*.—Mr. Burnier is a civil engineer.

*Ergo*.—Mr. Burnier is an excellent geometer.

*Corollarium*.—Mr. Burnier must know an oval from a circle.

But, though Mr. Burnier's knowledge in this matter is indisputable, I cannot but marvel that he should still choose to lay aside this nice discrimination, and return to his argument, as if a circle and an oval were one and the same figure. While we admit his knowledge, he thus obliges us to doubt his candour; but I shall quote his own words—"The oval rail has with the round rail this analogy, that the parts superposed in the passage of a tire are but a line, whilst the rubbing parts exist everywhere; therefore, in the round rail the same friction would exist as in the oval one," &c. This conclusion is most untrue and unphilosophical. Geometers may easily satisfy themselves that in the round rail there are no rubbing parts whatever; while the parts fitted to each other are confined to the 90° between the axis of the circle and its vertex. Above the axis the pressure on the rail must always be vertical, and the action rolling; below the axis, however small the extent, the pressure must be lateral or horizontal, and the action rubbing. This, I believe, is the true explanation of the immense difference in the friction on the round and the flat rails, as shown in Mr. Greenhow's experiments. On an oval or flat rail the rubbing parts are essential in the construction of the wheel; on a round rail they are entirely absent. If there is really any imperfection in the apparatus employed by Mr. Greenhow, to prove his position, as declared by Mr. Burnier, this ought to be carefully remedied—and Mr. Greenhow should take the necessary steps to prevent the repetition of similar objections; but I trust your readers will go and judge for themselves, instead of being guided by the representations of Mr. Burnier.

On another point, on which I have been at issue with Mr. Burnier, he expresses himself a little more positively than might have been expected, from the modesty he claims for mathematicians, of whom he is so distinguished a unit. "The whole of the concave tire is a flange—we did prove it," says Mr. Burnier. Were I dogmatical, like Mr. Burnier, I might, with equal confidence, assert that "I did prove the contrary;" but let it suffice that I will prove the contrary. It is true, that the concave tire performs the office of a flange—it prevents lateral displacement; but it does this by the natural and geometrical coaptation of one part to another, which, as we have seen, is unattended by rubbing action. The angular flange, on the other hand, professedly aims at the same end, by means necessarily attended by a rubbing action, and the friction which it occasions. The true distinction is, that the one always rolls along the rail, while the other both rolls and rubs. As to the futile and not very candid criticisms of Mr. Burnier on the paper of "Geometricus," I doubt not that, if he should think it worth while, that writer can easily repel the attacks of Mr. Burnier; but it is not somewhat odd that, after the disparaging allusions in the commencement of his communication to *knights errant and windmills*, he should choose to "do battle" with the whole host of supporters of the Geometrical System of Mr. Greenhow? Only claiming for himself the right of dictating the conditions of the *tourney*, or threatening to retire from the lists, with what honour to himself and your readers may determine. Surely, he might leave them to prove their case in their own way, and with their own arguments, rather than those of a not very courteous adversary; unless, indeed, they should be disposed to put the whole question into syllogisms, and adopt the excellent formula of Mr. Burnier.

G. M. T.

Cambridge, Sept. 28.

## GREENHOW'S GEOMETRICAL RAILWAY.

SIR,—If the notice with which your correspondent (Mr. N. A. Burnier, of Dufour's place) has honoured my little brochure was without a name, I should have allowed it to pass without remark. As it is, you will probably permit me to make a brief reply—brief, because, rejecting what is extrinsic and ornamental in the criticism, I shall confine my notice to what is brought forward in the shape of argument. I must remark in the beginning that, in laying down the premises on which my advocacy of the round rail is based, my critic does not always correctly quote my own words, in which I must think they would look somewhat better than in his; neither does he very successfully endeavour to invalidate their truth. His illustrations of the first axiom I laid down, appear to me neither apposite, nor worthy of a scientific opponent.—"Axiom: Machines can only act perfectly when the several parts are well fitted together."—*Critic's illustration*:—"We do not see why it would not be just as possible to fit a flat rail to a flat tire, to fit the flange of the wheel in close contact to the side of the rail; and then, according to the principle laid down, the railway ought to act perfectly well—all its parts being perfectly fitted." My critic knows well that "the form of the rail" is the first objection I have adduced, because it will not permit the wheel to be well fitted—perfect is not the term I make use of in connection with the fitting, and hence it is that another form of rail must be sought for. Perfection must be considered rather as a comparative, than a positive, term, when applied to mechanics. Parts perfectly fitted together, in the absolute sense, would admit of no motion whatever; but parts well fitted would permit exactly the degree and fac-



lity of motion required. My criticisms, doubtless, experienced the difference between shoes well fitted, and shoes either too large, or too closely—(or if he will, perfectly) fitted. Let him reduce this to a geometrical problem if he will; but it is an ultimate and undeniable truth, that a well-formed foot, with a well-fitted shoe, is better adapted for quick and safe walking than a deformed foot, and a shoe large and loosely fitted. I am almost ashamed to transcribe the next illustration of my critic, so adverse is it to sound and candid criticism:—"If exact fitting (not well fitting) is the great cause of good action in a machine, let us suppose that, instead of carriages with wheels, sledges should be employed on railways, and four gun metal surfaces should be applied perfectly to a perfectly planed and smooth rail—that a lateral piece, screwed upon the rail, should keep these supports invariably in their places, so as to make of a railway a perfect sliding machine—would it act well? It would certainly present 10 or 12 times more resistance, and still be a well-fitted machine."

Suppose, in our domestic services, we were to substitute a rhinoceros for a horse, or a hog for a greyhound, they would certainly offer 10 or 12 times the resistance to rapid muscular locomotion, and still be well-fitted animal machines. Independently of the absurdity of substituting thus gratuitously a sliding for a rolling motion, what my critic describes is surely no more like the geometrical railway than a hog is to a greyhound, or a rhinoceros to a horse. In his attempt to describe the intentions of the inventor, in substituting the round for the flat rail, my critic's illustration of the man skating might serve well enough, did he not forget the possibility of his passing over the ice on both feet at once; but when, from choice or necessity, the skater is moving on one foot only, it is necessary for him to possess the power of preserving his balance by the varied actions of his person and limbs; and, in this respect, the analogy to the arrangements of the geometrical railway is by no means inapt.

In the subsequent paragraph, my critic remarks, that "The rebound, which results from the interval left between two sections of rail, is certainly much over estimated at one-half of an inch; and if we calculate upon the ordinary gauge, and with the ordinary rails, we find that the motion described round the opposite rail is  $\frac{1}{10}$ , and the distance left between the tire and the inner edge of the supporting rail is the 56th part of an inch; and yet this would be entirely avoided were railways what they ought, what they will be—an unbroken surface." I have marked the latter portion of the sentence, because it so completely enunciates the intentions of the round rail, and other arrangements of the Geometrical System. I have only to say further, in reference to the nice calculations of my critic, that whether correct or below the truth, which they certainly are, under many and frequent contingencies, the occasional passage of the train from the line is an undoubted and great fact—causing, in the course of every year, the loss of many lives, rendering many persons lame and halt, and destroying property to the amount of some hundreds or thousands of pounds value.

The conclusion at which my critic next arrives is precisely the reverse of that to which the premises naturally lead—that "a round rail is thus unnecessary, and the friction which it presents renders its application impossible." If the round rail is capable of obviating the causes of accident, which my critic has entirely failed to disprove, it is, indeed, very necessary; and unless Mr. Greenhow falsely describes his experiments on that point (which I have not yet had an opportunity of seeing), the friction which it presents, instead of rendering its application impossible, is so very far short of that produced on the T rail, as to render its adoption most practicable and expedient. In objecting to the axes or pivots on which it is proposed to support the carriages, my critic forgets that such mode of support is already in operation at the wheels, and that the said axes would be further protected by the lateral chains.

But passing over his remarks on the inclined spokes, wherein this antique is incapable of criticism, I shall say a few words on the supposed analogy which my critic discovers between oval rails and round ones. "In the round rail (he says) the same friction would exist as in an oval one, the same quick wear, the same necessity of substituting others; the advantages claimed to the round rail, of offering to the tire the same fitting on several portions, is illusory, because the tire varies from its perpendicular position only a quarter of a degree—the short time of that variation cannot be considered of any importance."

Such are the assertions of my critic—I would ask him, are his quarters of a degree and supposed short time the causes, or not, of the destructive breaches of mechanical connection between the train and the line? If they are, few people will agree with him that they cannot be considered of any importance. If they are not the causes, then must the calculations of my critic be totally incorrect, and we must look for larger causes for the production of such great results.

When Wyatt tried an oval rail, he placed his wheel across it as a saddle, and he soon found what a little sagacity might have anticipated, that the oval rail, acting as a wedge, ground its way into the wheel until it became so closely fitted as to render motion nearly impossible. My critic either is, or he is not, acquainted with these facts. In either case his ignorance, or want of candour, is equally inexcusable; for he must know, that there neither is, nor can be, the slightest analogy between Mr. Wyatt's plan and the method proposed in the Geometrical System of Mr. Greenhow. In thus criticising my critic, I know that I am going out of the usual course; but I could not permit such gross misrepresentations to go unexposed.

In my advocacy of the Geometrical System of constructing railways, I am not pleading the cause of one, but of many—I am not upholding abstract principles, but a great and practical system—I am not supporting individual interests, but those of the great community of mankind; for which of us is without a great personal stake in the perfection and safety of railways?—GEOMETRICUS: London, Sept. 30.

#### GEOMETRICAL RAILWAY—MR. BURNIER'S PROBLEMS.

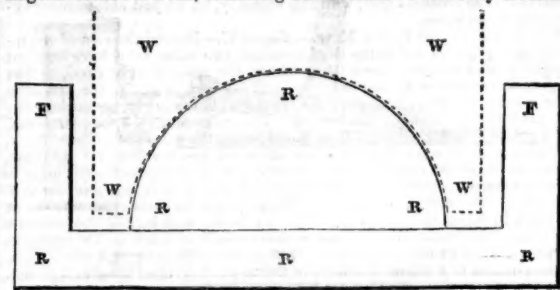
Sir,—To prevent Mr. Burnier from retiring from a contest, in which, perhaps, he finds himself overmatched, I shall endeavour to answer one at least of his problems—vide his paper in the *Mining Journal* of the 26th of September. Mr. Burnier must admit, first, that the points of surfaces must be in contact before friction can take place; and, secondly, that something more than a simple contact is required to produce friction between the corresponding points of the touching surfaces—that is to say, they must remain in contact for a definite space of time, and any given point in either surface must be carried forward with a sliding, and not with a rotatory motion, in order to produce any friction between the points in contact, and, therefore, between the surfaces made up of these touching points. Now, since the wheel tire is a concave curved surface, generated by the revolution of a semicircle about a fixed centre, represented by the centre of the wheel—and since the rail is a convex curved surface, such as would be generated by the rectilinear motion of an unequal semicircle in the same plane—it follows that any cross sectional arc of the concave wheel tire will coincide at every point with any cross sectional arc of the convex rail surface; and any point of the former are will, when the wheel is applied to the rail, be in perfect contact with the corresponding point of the latter cross-sectional arc.

Take now any pair whatever of these corresponding points, one in the surface of the wheel tire, and the other upon the surface of the rail, and let them be in contact—then, whilst the wheel remains at rest, no friction can arise; and when the wheel begins to roll along the rail, the point in question in the wheel describes a cycloid, whose base is represented by that line measured along the surface of the rail, in which line the other point is situated. Now, by the geometrical construction of the cycloid, the former point, or generating point, can only once come in contact with the base of the cycloid during each revolution—viz.: at the commencement of that revolution; and, when it again comes in contact, a fresh revolution is commenced. Neither does it continue in contact—for, if it did, the wheel would be at rest, which is contrary to the supposition; hence, since this point in the wheel is only once in contact with the surface of the rail during each rotation of the wheel—and since it does not, when in contact, remain in contact—therefore, from my preliminary postulates it follows, that no friction can arise from the contact of that point with the rail; and, since this is true of any point, it is true of every point in the cross sectional arc of the wheel tire—and the whole concave surface being made up of parallel cross sectional arcs, any one of which was taken, it is true of every point in the whole of the concave surface of the wheel tire; and, therefore, I have proved that no friction, or rubbing, can possibly take place during the revolution of a properly-adjusted concave circular wheel tire upon a rail having a convex cylindrical surface. ["Q. E. D."]

Next, let us admit that the concave wheel tire exerts upon the convex rail a greater amount of friction, or rubbing, than the flat tire can exert upon the flat rail. Then, if the friction of the carriage wheels be thus augmented, so likewise will the bite or power of the driving wheels be increased; and since the motive power cannot act, unless the wheels have a bite upon the rails, so as to produce locomotion, and as that power is effective just in proportion to the tenacity of the bite, it follows that Mr. Greenhow's

system possesses a superiority in this respect over the present system. Thus, whether there be friction, or no friction, Mr. Burnier is placed upon the horns of a dilemma. If Mr. Burnier has ever seen, or, having seen, considered, the action and adjustment of ropes and pulleys, he will, I imagine, attach more importance to Mr. Greenhow's system, when the line of rail represents a rope, and the wheel, with its concave tire, a moveable pulley passing along it. I do not understand Mr. Burnier's second problem—it is not enunciated so as to be intelligible. If Mr. Burnier will render it so, I will answer it. When any lateral force acts to divert the proper rectilinear motion of a locomotive carriage, the concave wheel tire acts as a flange, and lateral friction takes place proportional to the force of impact, and this force of impact is again proportional to the momentum of the striking wheel—i.e., to the product of the weight of the wheel, and the velocity of impact—and this velocity is again proportional to the time during which the lateral force acts, and must, therefore, be least when the space laterally passed over by the striking flange is least—so that the less play the wheels possess, the less will be the amount of lateral friction, or rubbing, from the action of lateral forces upon the wheels, in causing them to grind against the rails.

In the present system of flanges, when any lateral force tends to throw a train off the rails to the right hand or to the left, only one set of flanges can offer any resistance—viz.: those which are upon that side of the railway opposite to that towards which the lateral force tends. But, in Mr. Greenhow's system, both sets of flanges act at once, to whichever side the lateral force may tend—and this very evident truth is, perhaps, one of the strongest points in favour of Mr. Greenhow's system. I have added a diagonal section of a rail, combining Mr. Greenhow's convexity of surface



with a further advantage in possessing flanges, F, F, giving great additional security against the wheel, represented by the dotted lines, w, w, w, w, getting off the rail, R, R, R, R, R, R. The flanges, F, F, the circular part, R, R, and the base, R, R, might, if required, be all rolled separately, and afterwards bolted together; and if this were done, so as to break joint, the line of rails would form an unbroken extension, which could scarcely, by any possibility, suffer disunion, or even disorganisation. A scraper, attached to the engine upon each side, would effectually clear and throw out any obstruction which might accidentally, or mischievously, become located between the cylindrical part, R, R, and the flanges, F, F, of the rail.—ROBERT MUSSET: Coleford, Oct. 5.

#### Mining Correspondence.

##### ENGLISH MINES.

**BARRISTOWN.**—The lode in the 24 fm. level west of engine-shaft is about 3 ft. wide, composed of carbonate of iron, blende, and thinly disseminated with lead, looking rather better than when last reported on. The lode in the 18 fm. level west is 2 ft. wide, producing  $1\frac{1}{2}$  ton per fm. The lode in the 12 fm. level western end is small, producing over 1 ton per fm. The lode in western winze is at present obstructed by a slide, and not looking so well for ore. The end west of Nangle's shaft is producing about 1 ton per fm. We have suspended the end east, and put the men to sink the shaft on course of the lode. The following is a list of our prices for October month:—24 fm. level end, 5l. per fm. (four men); 18 fm. level west of flat-rod shaft, driving on tribute (six men); cross-cut north from the 18 fm. level, 4l. per fm. (six men); winze sinking under the 18 fm. level west of flat-rod shaft, 5l. 10s. per fm. (six men); flat-rod shaft, fixing lift, timbering, &c., 20l. contract (six men); end driving west of the 12 fm. level, 3l. per fm., and 5l. per ton (four men); western winze under the 12 fm. level, 3l. per fm., and 5l. per ton (six men); Nangle's shaft, 3l. per fm., and 5l. per ton (eight men); end west of shaft, 2l. 10s. per fm., and 5l. per ton (six men); new surface shaft north from Nangle's, 2l. per fm. (six men); shaft between Nangle's and mine, 2l. 10s. per fm. (four men); tributaries, 35 men—prices, from 4l. to 5l. per ton. Clon Mines, adit end, 25s. per fm. (four men).—T. ANGOVE: Oct. 3.

**BEDFORD UNITED.**—At Wheel Marquis, the lode in the 80 fm. level east is 2 ft. wide—mudic, spar, and spots of ore. In the 70 fm. level east the lode is 2 ft. wide, good saving work; and in the stopes, in the bottom of this level, the lode is worth 20l. per fm. The lode in the winze, in the 58 fm. level east, is 2 ft. wide, saving work—on the whole, the pitches are looking favourable. At Ding Dong, we have stopped the 24 fm. level west for the present. At Wheel Tavistock, the lode in the 47 fm. level, east and west, is 2 ft. wide, producing good stones of ore; and in the 35 fm. level east the lode is 2 ft. wide, producing some saving work. The south engine-shaft is 19 fms. 1 ft. under the surface, the lode is without alteration. The lode in the adit level is 2 ft. wide, composed of gossan, spar, mudic, and spots of ore.—J. PHILLIPS: Oct. 6.

**CALLINGTON.**—Driving east at the 112 fm. level, from Johnson's engine-shaft, on Johnson's lode, we find it 3 ft. wide, with a north underlie, about 2 ft. in a fm. (in the upper levels the underlie is south); the lode shows good indications, and is intermixed with good stones of tin and copper ores; should it continue to dip in the same direction, we expect to find it in connection with Vivian's lode, at the next level—both being only 11 fms. apart, and the latter dipping fast to the south; in the north end the lode has not been taken down; there is more water issuing from the same, and presenting a more kindly appearance. In the 100 fm. level, both north and south, the lode is disordered and unproductive. In the 90 fm. level, driving south, the lode is 8 in. big, pretty good work; in the north end and winze, sinking below this level, no lode has been taken down. In the 80 fm. level the lode continues productive. At the north mine, at the 100 fm. level, we have driven 7½ fms. towards the lode, the ground is hard. In the 90 fm. level, driving north, the lode is producing silver-lead ores; in the rise, in the back of the south end, and in the winze, sinking upon the same, we are opening tribute ground. In the 80 fm. level the lode continues disordered by the hard ground. In the 70 fm. level the lode is producing silver-lead ores. In some of our tribute pitches good discoveries have been made, and large piles of silver-lead ores are now being broken from them. At Kelly Bray, the lode in the shaft continues large and regular, being 4 ft. wide, and underlaying to the south 2 ft. in a fm., composed of gossan and quartz, intermixed with mudic and copper ores, of a rich quality. We sampled on the 1st inst., 95 tons of rich silver-lead ores.—J. T. PHILLIPS: Oct. 5.

**COSHEEN.**—Our prospects here are every day improving, and we are now bringing out and dressing as splendid ore as was ever seen in Swansea. The great difficulty with which we have to contend, is that of the sad distress which pervades the district, arising from the failure of the potato crop; and, as we are not justified in raising the rate of wages, in the absence of so doing, our employ is necessarily limited. We trust, however, something will shortly be done to relieve the population—at the same time, that it will tend to the encouragement of our mining operations.—W. CONNELL: Oct. 3.

**EAST TAMAR CONSOLS.**—At Whitson, in the 54 fm. level, north and south of Hitchens's shaft, the lode is 2 ft. wide, a very promising lode. In the 46 fm. level south the lode is improved very much since last report. At Furze-hill, the bottom levels, north and south from Harrison's shaft, are looking very well, lode 2 ft. wide, good work. In the 30 fm. level south the lode is 20 in. wide, saving work. Our tribute department is looking as well as can be expected. We expect to sample the latter part of this week 40 tons of silver-lead ores.—B. ROBINS: Oct. 5.

**GUNNIS LAKE.**—At Chilsworthy, the lode in the 12 fm. level, west of Bailey's engine-shaft, is 2½ ft. wide, producing some good saving work, and very kindly. The plat barrow road, &c., we hope to complete by the end of the present week.—W. RICHARDS: Oct. 6.

**HAWKMOOR.**—I beg to inform you, that the lode in the 15 fm. level, east of Hitchens's shaft, continues about 3 ft. wide, composed of spar, capel, mudic, and good stones of ore.—P. RICHARDS: Oct. 6.

**HOLMBUSH.**—I beg to inform you, that we have fixed our two other new plungers, and the cylinder cover, and set the engine working on Thursday evening, and forked out the water against Monday morning—the whole answering as well as we could have wished. The ground in the 120 fm. level, south of Hitchens's shaft, in much the same state as last reported on; in the 120 fm. level, east of Hitchens's shaft, the lode is 12 in. wide, and worth 6l. per fm. In the 120 fm. level, west of the winze, the lode is 15 in. wide, and worth 6l. per fm. We have resumed clearing the 110 fm. level, east of Hitchens's shaft, on the south part; the 110 fm. level, west of Hitchens's shaft, on north part, being driven far enough west to get under the winze sunk below the 100 fm. level, we have commenced rising to effect a communication; in the same level, driving south on the flookan part of the lead lode, we have favourable ground

for driving, with occasional stones of lead; we have six men in this end driving it with all possible speed to cut the copper lode, which is above in that direction, and to cut then the lead lode, which (you are aware) is standing to the east of the flookan part; we hope to perform both this month. In the winze sunk below the 100 fm. level, the lode is 12 in. wide, and worth 8l. per fm.; this winze being sunk about 8 fms. below the 100 fm. level, we think it advisable to suspend the further sinking, and to rise through the remainder of the ground; and have set the men to stop the ground on the western end of the winze, from the bottom of the 100 fm. level; on the same level northward we reported last week some two or three branches, which we intersected, and thought were running east of the lead lode—but, on opening some ground on them in that direction, they proved to be connected with a part of the lead lode, which was standing to the east; the entire width of the lode is 6 ft., and is composed of spar, flookan, and spots of lead; in the same level driving south, the lead lode is 5 ft. wide, producing stones of lead; we have set two new pitches in the back of this level, at 6s. and 6s. 8d. in the 1l., on the value of the lead. We have now four pitches at work on the lead lode, and hope to have more in the course of a few weeks, when we can lay open and drain the ground between this level and the 110. On Thursday next, we shall sample our lead ore.—W. LEAN: Oct. 6.

**MENDIP HILLS.**—In the 25 fm. level, north of Barwell's shaft, the lode continues about 2 ft. wide, composed of carbonate of lime and flookan, ground rather hard for driving. At Stainsby's we have this day commenced dividing the shaft, fixing footway penthouse, &c., preparatory to sinking below the 38 fm. level, which will be completed by the end of this week. I have suspended operations in the 20 fm. level, north of Somers's shaft, until we have communicated it with the 20 fm. cross-cut, west of new shaft, which I hope will shortly be accomplished. We have, during the past week, broken several stones of lead from the costean pit in the eastern part of the sett (mentioned in my report of last week), which is now about 12 ft. deep; the lode is at present 6 ft. wide, principally composed of gossan and flookan, intermixed with a small portion of manganese and calamine. To-morrow, I intend removing the men from where they are now working, about 50 fms. further west, on the same line of bearings they are now sinking, to prove whether the lode continues its regular course; if so, I would propose sinking a shaft in this part, as I think it probable we shall meet with lead at no great depth, it being in maiden ground; and what is still more encouraging, the continuation of a lode, where the ancients secured such an immense profit.—F. C. HARPER: Oct. 5.

**SILVER VALLEY.**—I beg to inform you, that the lode in the 40 fm. level west is 3 ft. wide, regular, with undefined walls—it is mixed with fragments of slate, containing mudic, and a very small proportion of tin. The south underlaying vein has not yet formed a junction with the lode, but they are only a foot apart in the bottom of the end, where the lode (which is but partially cut through) contains very fine stones of tin. Should the end improve at the junction, agreeably with the present appearances, the same result may reasonably be expected below the 40, where the slide will be found to have dropped on the lode, about 2 fms. below the present depth; when it will be necessary to sink the engine-shaft, preparations for which I would recommend being at once made. The lode in the 30 fm. level west is still split into two parts, which are unproductive. The pitch, in the back of this level, set on tribute last Friday, has every appearance of producing a large quantity of tolerably good tin-stuff; the stopes in the bottom of this level are suspended, in consequence of the lode having been mixed with a large proportion of slate, which cannot be separated from the tinny part, as in stopping the ground upwards. We have resumed sinking the winze, which, when communicated to the 40, extending east, a large piece of tribute ground will be laid open to be explored more advantageously. The lode in the 20 fm. level west is very large; and although it produced some good stones of tin during the past week, it is at present poor. The tributaries are working well, and are earning fair wages. At the silver mine the lode in the 10 fm. level continues without alteration. The western shaft is cleared and secured, and the men are now engaged in sinking where the lode is small and poor. The lode in the level, driving west from Oak's shaft, is 3 ft. wide, of a promising character—a little grey silver having been discovered here last week. We have commenced driving east from the shaft by two men, to endeavour to discover the cross-course seen at Wheel Mexico. The end at Wheel Sisters is still being driven through an exceedingly promising lode, containing a little silver; the samples mentioned in my last report produced from 9 ozs. to 32 ozs. of silver in the ton of ore; these are small produces, but they are favourable indications, inasmuch as silver thus precipitated often proceeds from shorts or bunches. We have made drains and other preparations for an increase of water for stamping the tinstuff; we think our plans, if carried into effect, will succeed in returning all the tinstuff which may or can be raised, and fairly try the mine without steam power. As I shall leave the company's services before the next usual reporting day, I propose giving both mines a thorough inspection on Saturday next, and to give a few general ideas relative to the best manner of working both underground and at the surface.—JOHN PRINCE: Oct. 5.

**SOUTH WHEEL MARIA.**—Our water machinery is completed, and work well; our wheel, although undershot, is of great power, being 12 ft. breast; and the perfect ease with which it pumps the water from the shaft, proves it to be equal to more work than was originally assigned it. We are now 23 fms. in depth; at the 30, it is intended to cut our 5 fms. in depth.—J. CHANHAM.

**SOUTH WHEEL TRELAWNEY.**—We have driven 4 fms. 4 ft. 10 in. south on Sobe's lode this month. The lode is 14 in. wide, composed of gossan and flookan. The direction of which is 26° west of south, and is set to drive at 3l. per fm. There is no timber required for the level, and the men to pay for wheeling and drawing the stuff; in the deep adit east, we have driven 5 fms. 5 ft. this month—ground very much improved, set to drive to-day at 3l. 10s. per fm.; we have intersected two or three branches of gossan and spar during the past week, all of them dipping east. I have arranged to meet Capt. W. Penrose on the mine next Tuesday, to fix on a spot where the shaft shall be sunk, immediately after which we shall commence sinking by six men with all possible speed.—W. LEAN, Sept. 26.—The following report is from Capt. W. Penrose, of the Caradon United Mines, dated Sept. 30: "With the assistance of Capt. Lean, I inspected South Trelawney yesterday, and find Sobe's lode to be much improved as to character, dip, and course; it is now full 20 ins. wide, with a dip about 2 ins. in 6 ins., and carrying its head 23° to the west of south, composed of a good flookan, gossan, spar, mudic, and have reason to believe it contains portions of lead, and from appearances believe other small branches will fall in with it, which will tend to improve the lode still further south of the present end. The eastern boundary opposite this point is 28 fms. 4 ft.; and I, with Capt. Lean, do not think a shaft should be sunk in that place, as the lode is likely to go out of the sett in about 90 fms. in depth; but, by carrying out the last point driven on the lode south, which is 20° west of south for about 70 fms., you will have a distance to the eastern boundary of more than 90 fms. from the back of the lode, supposing the lode keeps this last course, and to prove it, Capt. Lean will put some men to open pits at this point. I hope, in a few days, we shall be able to determine where the engine-shaft is likely to be sunk to the best advantage, for the more effective development of the mine. We should always remember, it is one grand point to begin right, especially in mining, and not to sink shafts injudiciously. As your lode is now presenting a much better appearance than for some months past, and the mine is in a watery country, I could not advise you to put in less than a 30 in. cylinder steam-engine."

**TRELEIGH CONSOLS.**—In the 100 fm. level, east of Christoe, the lode is about 2 ft. wide, producing stones of ore; the rise above the 100 will be holed from the winze over it, sinking below the 90 fm. level, in a few days; in the 100, west of ditto, driving on branch of the cross-course, and expect to cut the lode soon. In the 90, west of ditto, the lode small, no mineral—expect to hole to the 90, east of Garden's shaft, in two weeks; in the winze below the 90 east the lode is 2 ft. wide, worth 6l. per fm.—will soon be holed to the rise from the 100 fm. level. Garden's shaft, below the 90, is sinking in the country, south of the lode about 6 ft., which is nearly perpendicular—but expect the lode in the shaft in a few fms., and expect to communicate soon to the 90 from Christoe. In the 90, east of ditto, the lode small, no mineral; in the 90, west of ditto, the lode is 2½ ft. wide, worth 20l. per fm., and very promising for an improvement; the stoping, back of 90 east, set on tribute; in the 70, west of Goodfortune, driving on south part of the lode, not as good as last week—lode 2 feet wide, producing stones of ore. In the 60, west of Symons's, the lode is 20 in. wide, with a branch of ore—worth 5l. per fm. The 50 cross-cut north is suspended; the 50 west, on the north lode, we shall drive west 3 fms., south of the cross-cut end; on the first branch we cut, which is the largest, it is about 10 in. wide, spar and flookan. In the 44, west of Symons's, lode 1 ft. wide, unproductive. The 34, west of ditto, suspended—these men are put in the 44 fm. level; in the adit, west of ditto, the lode is 10 in. wide, spar and ore. The west shaft sinking in the country.—W. SYMONS: Sept. 25.

**TRESAVEAN.**—Sale of ores, &c. (less lord's dues), 3581l. 14s. 2d.; costs for July and August, 3227l. 19s. 8d. = 553l. 14s. 6d.: add balance in hand end of June, 663l. 8s. 7d.—leaves present balance, 1017l. 3s. 1d.—Sept. 29.

**TRETHELAN.**—Sale of ores (less dues), 739l.; costs for July and August, 665l. 6s. 2d.—shows profit of 73l. 13s. 10d.: add balance in hand end of June, 586l. 11s. 1d.—leaves present balance 669l. 4s. 11d.—Sept. 29.

**UNITED HILLS.**—In the 90 fm. level, the lode in the eastern end is 3½ ft. wide, coarse in quality; in the western end the lode is 4 ft. wide, 2½ ft. good ore; in the stopes the lode is 2½ ft. wide, 18 in. ore of fair quality. In the 80 fm. level, eastern end, the lode is 3 ft. wide, producing ore throughout of the quality. In driving north of diagonal shaft the ground is very hard. In the 70, east of eastern shaft, the lode is 3 feet wide, 18 in. ore of fair quality—not looking so well as when last reported; we have cut no lode as yet in driving north; the west of James's shaft, in the stopes, in the bottom of this level, east of Williams's, lode is 2½ ft. wide, 18 in. ore of average quality. In the 60 fm. level the lode is 3 ft. wide, 2 ft. producing ore of low quality. In the 50 fm. level, in this cross-cut, the ground is favourable for driving; in the shallow adit the lode is 4 ft. wide, 18 in. ore of average quality. At Wheel Charles, in



the 30 fm. level, the lode is 2 ft. wide, poor. In the 40 fm. level the lode is 2 1/2 ft. wide, 2 ft. ore of fair quality. At Wheel Sparrow, in the 40 fm. level, east of winze, the lode is 2 1/2 ft. wide, 1 ft. ore of average quality; west of Richard's shaft, no lode broken for the past week. In the 30 fm. level the lode is 18 inches wide, 1 ft. ore of fair quality.—T. TREVENEN; R. WILLIAMS: Oct. 5.

**WEST WHEEL JEWEL.**—In the 115 fm. level east, on Wheel Jewel lode, the lode is 1 ft. wide, unproductive, ground very hard for driving—drove last month 3 fms. 2 ft. 6 in. In the 100 fm. level, east of ditto, on the same lode, the lode is 2 ft. wide, worth 54 per fm.—drove 1 fm. 1 ft. In the 85 fm. level west, on the same lode, the lode is 1 ft. wide, of a more promising appearance than when last taken down, worth 44 per fm.—drove 3 fms. 6 in. In the 12 fm. level west, on Tolcarne tin lode, the lode not proved in the past week, worth 804 per fm.—drove 2 fms. 1 ft. 7 in. In the winze, east of Quarry shaft, on the same lode, in the bottom of the 12 fm. level, the lode is 2 ft. wide, worth 154 per fm.—sunk 2 fms. 3 ft. In the winze, in the bottom of the deep adit, west of Quarry shaft, on the same lode, the lode 2 1/2 ft. wide, worth 107 per fm.—sunk last month 1 fm. 1 ft. In the winze, in the bottom of the deep adit, west of old sump shaft, on the same lode, the lode worth 44 per fm.—sunk 2 fms. The adit end, that we set last month at Rose Lobby shaft, to drive west on the tin lode, is not set this setting day, in consequence of a bad run in Rose Lobby shaft, which the men are now clearing and repairing.—RICHARD JONES: Oct. 5.

**WHEEL AGNES.**—The lode is now 2 ft. wide, very good work; a large stream of water is coming out of the lode, which is considered a kindly indication.—B. ROBINS.

**WHEEL BLENOWE.**—I am happy to inform you, that our last return of tin amounted to 2 tons 1 cwt. 0 gr. 9 lbs. No. 1 sample, 3 tons 13 cwt. 1 gr. 8 lbs., was sold at 514 per ton. No. 2 sample, 7 cwt. 3 gr. 1 lb., was sold at 354 per ton. The amount of cost was 2004. 14s. 9d.—Oct. 7.

**WHEEL CONCORD.**—We have six men rising above the 38 west at 50s. per fm.; the lode there is 2 1/2 ft. wide, of calcareous spar and flookan, impregnated throughout with mounds and particles of lead. The 28 west is being driven by four men, at 50s. per fm., through a lode 1 ft. wide, chiefly flookan, with occasional spots of lead; in the same level east the lode is 2 1/2 feet wide, producing fine stones of lead—this level is also being driven by four men, at 50s. per fm. There are four men driving the 20 east at 54. 5s. per fm. on a lode too wide for the whole of it to be included in the width of the level—it is chiefly compact quartz, with a little lead on the north part. Here we hope shortly to meet with a continuation of the course of lead, from which our returns are derived in the 10. In the 10 fm. level, west from Snell's shaft, we are stopping the back by six men, at 34 per fm., and sinking a winze at 54. 5s. by six men; in both the stopes and winze there is a fine course of lead, varying from 3 to 4 ft. wide; the 10 fm. level is in course of driving east from Snell's shaft, by two men at 35s. per fm.—the lode is 2 ft. wide, producing good stones of lead and zinc, presenting a very promising appearance indeed. By this you will perceive we have 82 men on work, and we have also 27 labourers and mechanics in different parts of the mine, besides several women and boys dressing ores, who must be considerably augmented to be a sufficient number to prepare the ore for the market as fast as it can be raised. I would further observe, that we have five tons of lead dressed on the floors, and that the kindly nature of the lode in the different levels holds out good promise of answering our most sanguine expectations. With respect to the immediate returns of the mine, I may observe, that I contemplate we can raise about 20 tons per month from the 10 fm. level; but until further discoveries are made, it is impossible to name any further additional quantity from other parts of the mine. It is, at the same time, right to observe that, although we are raising about 20 tons per month, it is not practicable with our present means to dress and return more than one-half that quantity. To enable us to meet the produce of the mine, it will be necessary that we should take some immediate measures for increasing the power, either by the removal of the wheel now used for pumping, and fixing the same near the dressing floors, so that its power might be rendered available in working the crusher—a large portion of the machinery necessary for which is at present on the mine, the erection of which would be comparatively insignificant; or taking such other means as the committee may think fit.—J. B. CLEMO: Oct. 5.

**WHEEL LOUISA.**—The ground is still improving; the shaft is down 17 fms. To-day we have put 4 men to drive the lobby, and 2 men to throw back the earth, &c., to intersect Wheel Arvose lode. At Wheel Arvose, since our account-meeting, they have driven on their lode, and found it very promising, throwing out rocks of ore from 1/4 to 1/2 cwt. each.—J. CHYNOWETH: Oct. 6.

**WHEEL WALTER.**—We have completed the London shaft to the depth of 30 fms.—the ground in the bottom being, however, much harder; we have set a plat to cut at this level, which, when done, we shall have a cross-cut of about 4 fms. to drive to intersect the lode, allowing the underlay to be 8 ft. in a fm. This lode we expect to cut by the end of the month. The engine will go to work in the course of three weeks from the present time. Two men are driving on B. lode, at 30s. per fm. There is at present no improvement; but I think it right to extend this level so far as the cross-course. We have 12 fathoms further to extend the adit to cut the D and E lodes. The cost for Sept. will be about 1904.—JAMES OPTIE: Oct. 6.

#### FOREIGN MINES.

**ALTEN MINES.**—The following is the estimated produce for August:—

Mines.	No. of men.	Tons ore.	Per cent.	Tons copper.
Raipas	20	70	50	5.25
United Mines	12	30	40	1.20
Ryper's	10	10	12	0.84
Mancur's	10	16	6	0.96
Old Mine	2	10	5	0.50
New lodes	5	5	7	0.35
Total	60	143		9.10

Mining Report from 20th August to 10th September, 1846.

**Raipas.**—The general prospects of this mine have undergone little, if any, alteration since my last report. The rise from the 5 fm. level workings, has been communicated with the shallow workings from the surface, and the men are now employed in a level for exploring the gossan lode. Labouchere's lode continues rich, but the ground is so tough and porous, that little progress can be made in developing it. The stopes in the 5 fm. level, and shallow adit workings, yield their usual regular returns.

**United Mines.**—The stopes above the 40 fm. level, on Ward's lode, are still profitable; and being situated in an almost unexplored part of the mine, may be considered an unusually favourable indication. A new stope has been set at the surface near shaft E, where a small quantity of good ore is visible in the lode; but, being hitherto unexplored, we are unacquainted with its extent or value—four men are employed here to explore the lode before the winter sets in.

**Ryper's.**—The appearance of the workings generally is less favourable than when last reported. The lode in the level is large, but at present unproductive; the stope on the counter lode, has also somewhat deteriorated; but that on the south lode at the surface has improved, and holds out good prospects as the workings descend.

**Mancur's.**—The lode in the adit level continues fluctuating in its produce; but, at the present comparatively trifling depth, the prospects may be considered unusually favourable. The ground in the stopes is still hard and compact, but continues to yield a fair return of dredge of the usual quality. We are now cutting a winze-plat, and making other preparations for sinking on the course of the lode, under adit, where we hope to open some good reserves of ore ground.

**Old Mine.**—Our operations are still confined to the halvan heaps; but our progress is slow, owing to the scarcity of water for the machines.

**New Lodes.**—The prospects here are also less flattering than when last reported. The lode in stope, No. 16, of last month, is small and poor, and its further prosecution has been suspended—as has also the new level No. 17, where the clay-slate stratum has completely displaced the lode. In level No. 18 (in the list of settings for September, No. 16), the lode is large and regular, but poor. Another promising vein, about 1 ft. wide, has been found between the Old Mine and Ryper's. A bargain (No. 17) has been set to two men, but I fear the winter will put a stop to our proceedings before it can be properly explored.

**Ore Dressing.**—The drought continues to impede our progress in this department; but having forced the operations as much as possible during the summer, we shall experience no difficulty in returning the whole of our stocks of ore by the end of the month. The two deliveries (Nos. 3 and 4) to the smelting-house for August, amount to nearly 25 tons of copper; we expect to return about 15 or 16 tons more by the end of this month, which closes our mining year. The result of our proceedings will undoubtedly leave a much larger profit than could have been anticipated at the commencement.

**ANGLO-MEXICAN.**—Guanajuato, August 24.—I have much pleasure in stating that, since the date of my last letter, the results have been altogether improved, but I cannot say that our prospects are much brighter. Since my last, I have visited the mine, and examined very carefully the excavations, particularly those in San Casimiro, and can only remark that it may continue to give us a few more good sales; but as the best fruits are extracted from a mere bunchy string in the pozo of San Casimiro, I have no opinion that it will last long, or to any depth—therefore, all we have to do, is to make the most of it whilst it holds out. I now proceed to lay before the board the weekly results:

Week ending	Memoria.	Sale.	Profit.
July 25	\$ 531 1 9	\$ 9357 0 0	\$ 572 2 3
Aug. 1	596 6 11	3025 3 0	915 6 7
8	896 0 10	3425 3 0	818 4 8
15	946 0 11	3930 3 0	1019 0 7

Profit on the four weeks.....\$ 3325 6 1

Total number of cargoes sold, 1063, at the average price of \$124 per cargo: this shows an increase both in quality and quantity.

**Sirena.**—The accounts are not yet sent in, but I do not expect any other participation this month than simply the rent.

**BOLANOS MINES.**—Zacatecas, August 15.—Since my respects per last packet, of which a duplicate is enclosed, I am in receipt of your secretary's favour of the 1st of June.

**EL BOTE MINE.**—This negotiation was transferred to the company on the 3d August. My inspection of the mine has shown me that its value has not been overrated; indeed, I have no doubt, that at the present moment 4000 cargoes of ore might be broken per week, by putting 50 pairs of hands to work by day, and as many by night; the bottoms of the Guadalupe workings being still practicable, though incommoded by water, and, independently of these bottoms, at least 2000 cargoes may be broken, and, from what I can judge so far, the average ley will be hardly below 8 mcs. per monton. There are, however, many reasons why it would be inadvisable, as well as impracticable, to force the raising of ore at present. By the end of next month, however, I shall be prepared to break as much ore as can be raised by one malacate (without interrupting the sinking of the shaft), or, as we shall be able to reduce, I think there will be no difficulty in raising 2000 cargoes weekly, and, when the bottoms of Guadalupe are drained, the quantity will be immediately doubled. The hacienda of Cluco Senores has required a much larger expense for repairs than the amount I mentioned; everything, however, is now nearly ready for going to work. The patio is what delays us at present—it is required to be newly flagged, and the stones come in very slowly—so that it will still require three or four weeks to complete it. Mules and horses are provided—so that, in the course of next month, I hope to have the hacienda at full work. When we once begin to wash, our produce will, no doubt, quickly repay the present outlays. 2000 cargoes weekly, of 8 mcs., will leave \$6000 profit.

**SAN CLEMENTE SETTS.**—The working in these mines has gone on about the same as before. The west end of La Luz shows some signs of improvement this week. Rather than resume any further expense in drainage, my object for the future will be only to keep the water below the level of La Luz. You will perceive by the accounts that, with this economy, we are just able to cover expenses in these mines.

**SAN FRANCISCO DE PAULA MINE.**—August 17.—Beyond the vein of ore, reported in my last as cut in the third cross-cut, two other veins have been cut in equally good ore—the three being within the space of three varas, so that they can be embraced by one end. An end has been opened to the east upon them, and worked for a fortnight; the ore fell off immediately, and at last disappeared, but it remains in the bottom. The cross-cut, No. 3, has, last week, cut a stream of water, which will, no doubt, drain the winzes of the level No. 2, and enable us to work upon the ores there; it has, however, for the time, driven us out of the shaft, and made another malacate necessary—the delay is very unfortunate, for it becomes continually of greater interest to gain depth in this mine. The shaft is now about 17 varas below the third cross-cut, and at 25 varas I propose opening the level No. 4. In the workings of the buscones the veins of ore have improved, and we have raised as much as 100 cargoes in a week, of a ley probably of 15 mcs. This morning the barreteros have struck, in consequence of a reform I ordered in the mode of dividing the ore; I do not, however, contemplate the turn out lasting many days.

**CELESTINA MINE.**—During the past month this mine was worked *a la carga* at 52 per cargo; but, owing to the opinion of its being unhealthy, not more than nine paradados went to work by day only—this small number of hands broke about 50 cargoes weekly, of a ley of 16 mcs. per monton; but, since the last fortnight, they also have abandoned the mine, and nothing remained but to offer it on partido; I gave notice that it would be so given this week, with a partition of one-fourth, and about 80 paradados had offered to come to work this morning, in the understanding that the division was to be made in closed bags; but it appears that the malcontents of San Francisco de Paula have induced them also to strike for the common mode of partido, and the mine is, consequently, not now at work; I hope, however, the difficulty will be got over in a few days. If 30 paradados go to work by day, and 20 by night, I have no doubt we shall raise 200 cargoes weekly, which will immediately leave handsome profits and pay off the debt. The tutwork has suffered occasional interruptions from want of hands, and I have had to induce them by raising the prices. The north cross-cut of the 64 vara level has continued in vein rocks, and last week cut some metallic threads of no promise; as soon as we get quite through these appearances of lode this work will be abandoned. The east end of 64, driving towards the winze of Celestina, has improved somewhat in character; and as it approaches that winze, which is in good ore, it is to be hoped it will still improve—I am very anxious to complete this communication, as the best and most abundant ores are left in the winze of Celestina, for want of ventilation and drainage.

**QUICKSILVER.**—I have to-day bought 34 qls. from Guadalupe at \$140, returning the iron bottles, which makes the price equal to about \$143. During the past month 175 qls. of quicksilver were produced in Guadalupe, all by poor people, who distil the metal in earthen pots—there being neither furnace nor retort in use there, and very little capital engaged in the mines. A gentleman in Mexico has, however, taken possession of several of the mines, and proposed working them extensively; and it is evident, that if 175 qls. can be produced by the small people, as at present, 500 qls. might be produced monthly, and, probably, will be ere long.

**CELESTINA MINE AGAIN.**—I have just received advice, that the barreteros have been persuaded to go to work, and that 27 paradados have gone underground; if they continue constant we shall see no more losses.

Statement showing the General Results of the Mines and Haciendas for July:—

Mines.	Profit.	Loss.
San Clemente Mine	\$1010 2 0	—
San Nicolas	3004 2 5	—
Malancho	—	\$397 7 5
Veta Bella	—	14 0 0
San Rafael	—	6632 3 5
Celestina	—	622 4 7
Loreto	—	52 6 2
Disputed ground	2742 4 3	—
Haciendas	1179 6 6	—
	\$7936 7 5	\$7609 6 3
Loss	7609 6 3	—
Profit	\$ 327 1 3	—

**PACHUCA MINES.**—August 28.—Rejona.—The cross-cut, driving south of San Miguel shaft, has not yet cut the main part of the lode; and in the bottom of the shaft, sinking on the north part, the lode is still kindly, and contains a little ore.

**Esperanza.**—No alteration has taken place in the 95 vara level, west of San Buenaventura, since last month. We have cleared a pit near the western part of this sett, and adjoining that of Santa Clara, which has been named San Guillermo; the bottom was found at about 9 varas from surface, and the sinking has been commenced in a large lode, altogether not less than 20 varas wide, as it is very near the point of junction of this vein with that on which the San Pedro shaft is now sinking, about 200 varas further west. This appeared to me a good situation for a work of trial, as there are several large lodes which join that of San Pedro a little further west; the part on which the pit is sunk is composed of quemazon, and assays about 3 mcs. per monton, the ground is easy for sinking, and the work will be carried on very cheaply.

**Guadalupe and Santa Clara.**—I was very much pleased with the appearance of the lode in the San Pedro shaft, which is already beginning to produce ore; the last 24 varas sunk having yielded 13 qls. of azoque, assaying 15 mcs. per monton, and 8 qls. of 8 mcs., and one stone, which I brought home, assayed 59 mcs. The total depth is 59 varas. The fact, that we are in this place exploring ground that will afford a profitable working, is satisfactory; and from the great width of the vein (a small portion only of which is being examined by the shaft), we may, I think, reasonably expect to find a large quantity of ore. It is not well, however, to be too sanguine until we open more ground; but, it is evident, the lode is improving in depth.—Costs in July, \$837.

**REAL DEL MONTE.**—Mineral del Monte, August 27.—I have read the report of the directors, made at the annual meeting of the proprietors, held the 28th June last: it is upon the whole a satisfactory one; and I believe the directors will be fully borne out by future results, in everything they have stated. The repairs of Dolores perpendicular shaft, below the Aviadero level, having been completed, the sinking was resumed in the beginning of the month, and is progressing favourably—the ground, however, still requires to be timbered, which will occasionally hinder the work; but the 25 varas, which remain to be sunk to the level of Santa Teresa, I expect will be completed by the end of the year—at which depth it is proposed to drive a cross-cut to the bottom of the diagonal shaft, and extend a level west under the San Enrique workings, and north on the Santa Brígida vein: by this latter level, we expect to draw off a part of the water, which goes to Acosta, and which at present causes a serious difficulty in carrying on several important works in the latter mine, and particularly that of sinking San Pedro shaft. The 95 vara level, north of Dolores, on the Santa Brígida vein, was communicated to the workings above the Aviadero, on the 18th instant; and now that a good ventilation is obtained, we have increased the number of barreteros, who are breaking azoque ores, of about 12 mcs. per monton, from the ends of San Eduardo winze, and from a new winze below the 95, a little further south, called Santa Clara, which is producing, beside the azoque, a little smelting ore. In the Santiago level, west of Dolores, we have been lately driving a cross-cut south, near the present end, to examine that part of the vein, which we find altogether rather more than 4 varas wide, and ore throughout. On the north part there is a branch of solid smelting ore, about a foot wide, and the remainder azoque, interspersed with bunches of the best class. This place, including the workings of San Enrique and San Pablo adjoining, produce about 80 cargoes of smelting ore per week, assaying from 140 to 150 mcs. per monton, and about 900 cargoes of azoque of 16 to 18 mcs. per monton. This level is again driving on the north branch, which continues to preserve its usual regularity as to size and richness, and presents a very fine appearance: the same may be said of San Enrique, and the labores in its immediate vicinity, which are at present producing very good ore. We propose shortly to commence sinking below the Santiago level, but I expect we shall not be able to go many varas, on account of the water, before the proposed

flat rods are fixed in the San Juan level. In the mine of Santa Ynez, there is a large quantity of azoque ore in sight, containing a ley from 12 to 14 mcs. per monton. All the ore from this mine is now being sent to Sanchez, to be reduced in the barrels. In the San Pedro shaft, at Acosta, the preparations for fixing new pitwork at the San Enrique level having been completed, we are preparing to sink; but you will notice, that Captain Skiffill describes the water as being very abundant—indeed, I have seldom seen such a large stream in any mine as that issuing from the Aviadero: the fact that the large engine is worked 12 strokes, and the small engine 11 strokes per minute, to keep the mine drained, will give an idea of the quantity. The San Enrique or 156 vara level has now been extended about 10 varas west, and 9 varas east of San Pedro shaft; the lode throughout this distance, and in each of the present ends, is a very promising one—the assays, however, have thus far been generally very low. The Aviadero level, east of Santa Brígida vein, is also a very promising place. You will observe, the mine report states the lode to be 6 ft. wide, and ore throughout; and as this level is exploring a piece of virgin ground, there is reason to hope for improvement. The San Pascual winze, sinking below the San Ysidro, is not so good as it was above, although it is still producing a large quantity of azoque, and a little smelting ore. The great mass of the vein in this neighbourhood is good azoque, with occasional branches of rich smelting ore. At Sacramento, the best labor is about 240 varas north of the shaft below the adit, which, for some time past, has been producing from 90 to 100 cargoes per week, assaying 12 mcs. per monton; and this ore is raised very cheaply, as it is composed entirely of tierras, and require, therefore, labourers only with shovels to fill it up, and carry it to the shaft. At Rosario, but little ore has been raised during the last few weeks, owing to the scarcity of powder. I have sent repeatedly to Mexico to endeavour to procure some. This article is monopolised by the Government; and cannot, therefore, be obtained elsewhere. The late revolution, and consequent confusion, has been the cause of scarcity. They have, however, promised to send out a large supply in a few days. The total quantity of ore raised from all the company's mines, during the last four weeks, will be seen in the following statement:—Week ending August 1, 1056 cargoes azoque, 100 do. fuego; 8th, 958 cargoes azoque, 200 do. fuego; 15th, 800 cargoes azoque, 152 do. fuego; 2d, 1002 cargoes azoque, 115 do. fuego: total cargoes azoque, 3816; fuego, 567—4383 cargoes. The raising of smelting ore is regulated to keep about seven furnaces in constant work, and the azoque to supply our present haciendas. The results of the present month's operations will, I expect, about correspond with the estimate; although the returns will hardly come up to the 70 bars, still I believe the profit will not be much less than \$18,000. In July the expenditure amounted to \$56,412, and the returns \$70,996; showing a profit of \$14,584.

The first eight new barrels at Sanchez will be at work by the end of next month. This has been a more tedious job than we expected, but it is well put out of hand, and will last for a long time. Mr. Spangenberg has been engaged nearly all the month making trial of his new benzon, on the different classes of ore from various mines. It appears that the ores from Rosario do not answer well by this process, but that ore from other mines give better results. I noticed, in a former letter, that I had resolved to make an attempt to plant a certain portion of the company's woods, which have previously been cut down; and I am happy to state, that thus far it answers very well; about 20,000 young trees have been planted, all of which appear to be thriving. The wire ropes sent out some time ago were put to work at the Dolores shaft about eight months since, and up to the present moment the wear and tear is imperceptible—thus causing an important saving in the consumption of the common ropes of the country. I beg to hand you enclosed a bill in favour of the directors for 20004.

**ST. JOHN DEL REY MINES.**—Morro Velho, July 18.—Heads working during 18 days, 67-72. There have some impediments to the drawing, in consequence of the syphon reservoir and last giving way. The stone pillar in the Gamba is completed, and is well done; a stall, which has been fixed over the stopes in this mine, for the safety of the people, has now to be loaded, and then this mine will be safe. The mechanics are getting on with the work for the Lyons' stamps, and the excavation for the new wheel pit is at length commenced, and the breaking of stone for building its wall.

**UNITED MEXICAN MINES.**—Guanajuato, August 23.—*Mine of Rayas.*—The most favourable appearance now presented in the mine is in the working of Santa Cecilia, which has improved considerably since the last report, and gives us hopes of still further improvement. A little apolivilado continues to be extracted from San Simon; but the water has recently increased rapidly upon that point, and has somewhat impeded the working. I subjoin a statement of the produce and outlay of the last four weeks, by which you will observe that the joint sales with buscones have increased. The outlay has been increased this month by the purchase of a quantity of iron, and of 50 horses for the malacates.

4 wks. end.	Picked ore.	amt. sales.	Outlay.	Excess of Outlay.
July 18—Cs. 19004	5 7713 2 4	—	\$13,567 5 3	\$ 5954 2 7
Aug. 15. "	2032	9487 5 0	16,372 7 1	6785 2 1
	Cs. 1314	\$1774 2 4	\$2605 1 6	\$830 7 0
	Increase.	Increase.	Decrease.	Decrease.

**Quicksilver.**—Since my last I have not received a bottle from any quarter. The bad condition of the roads from very heavy rains, combined with the disturbed (and, consequently, unsafe) state of the country, prevents the arrieros from moving. The 80 flasks landed at Vera Cruz have been in Mexico some time, and the conductor has engaged to bring them here; but he has not yet succeeded in doing so. Our agents have also contracted with an arriero for the conveyance of the second shipment from Tampico; in their last letter, they inform me he had not been able to depart, owing to the rains.

**Remittances.**—In my last I mentioned my intention of remitting \$25,000 by the conducta, which usually leave this city for Tampico about the end of this month; but the revolution which took place in Mexico on the 4th August, and has spread through the country, renders its departure totally impossible for the present.—W. HEATH.

#### Report on the State of the Workings of the Mine of Rayas.

**August 22.—La Purisima.**—The ore produced on hacienda account, from the rubbish extracted by the great shaft, continues without any increase.

**San Lorenzo.**—Eight pair of barmen by day, and an equal number by night, have been employed in the various parts of these old workings, in any place where ores are to be found, which can be thrown down with safety. The quality of the ores that are being extracted at present is of an ordinary character, while the quantity has likewise decreased.

**San Simon.**—The extraction of ore from the south-east side of this point has been sufficient to compensate the falling off in San Lorenzo; the ores are found against the upper part of the lode, and these will be taken out previous to extracting those in the lower part, referred to in last month's report. Some bunches of rich classes are occasionally met with amongst the common produce, which also is of good quality. A small quantity of rich ore has been extracted from the pit of San Pablo, in San Cayetano. Six pair of barmen are employed in these two workings by day only.

**San Miguel.**—In the pit of San Darío there is at present rather a well-formed body of ordinary ore, which contains some narrow threads, and small bunches of good quality. The end to the north-west is suspended for the present, having fallen into a very impoverished state. From the roof of San Darío a small portion of common ore is extracted, and also from San Pedro. Twelve pair of barmen have been employed by day, and an equal number by night.

**Santo Toribio.**—During the last month, 7-98 varas have been driven in this cross-cut; in the advanced part, there are now some narrow veins, with slight indications of silver; the end to the south east presents little variation, and advances slowly, as only 4 pair of barmen are employed between day and night.

**Santa Cecilia.**—In following up this work of research to the south-east, a narrow band of ordinary ore, which gave per assay 2.81 mcs. per monton, has been laid open against the lower side of the end. As soon as the end advances sufficiently, an investigation will be made, by driving into the lower part of the lode, at the point in which the ore has been met with; four varas have been driven in the end since the last report. The water in the great shaft has risen to the level of San Simon, and extended itself a considerable distance in the same, towards San Cayetano; but no interruption has yet taken place in the extraction of ores from this part of the mine, although the expense of conveying them to the shaft is increased, as they have now to be carried to the level of Guadalupe, which is 80 varas above San Simon. In one of the points worked on joint account by buscones, an improvement has taken place during the last few days; there is nothing worthy of particular remark in the other points.—G. R. GLENNIE.

**NEW MINE AT SALTASH.**—The best indications of a most prosperous copper mine have been discovered at Moditham, near Saltash, upon the estate of F. Cresswell, Esq. The finest mounds have been found within 2 ft. from the surface of a hill facing the lake. The name given to the new mine, upon which operations have commenced, is "Wheat Sophia."—*West of England Conservative.*

**CONSETT IRON-WORKS.**—This extensive concern, which is situated near Shotley-bridge, Newcastle-on-Tyne, commenced their operations in 1841; and, by the end of the present year, their works will be the second largest in the kingdom. Their "royalty" (or right of working the minerals) extends over a circle of 28 miles. Before Christmas next, they will have at work 14 blast-furnaces for smelting iron; two mills, capable of puddling, hammering, and rolling 900 tons of bar-iron per week; 12 refineries for refining and founding; 22 steam-engines to turn machinery; and 35 coal and ironstone pits to supply materials. The population connected with these works will, by that time, be about 10,000, all brought together from different parts of England, Wales, and Scotland, since the latter part of 1841. In addition to these, there are about 2000 of the old rural population of the district. The establishment is under the management of Messrs. J. Richardson, C. J. Digge, W. Cargill, &c.

In the town of Sheffield there are 5330 persons employed in the various processes of the manufacture of pocket-knives. In this number are included 2400 setters-in; 480 pen blade grinders; 150 pocket blade grinders; 270 blade forgers; and 110 scale forgers.



## TRELEIGH CONSOLS MINING COMPANY.

The annual general meeting of the shareholders in this company was held at the offices, Old Broad-street, on Wednesday, the 7th inst.

G. B. CARR, Esq., in the chair.

The report of the directors, with a report from Capt. W. Richards, and the accounts, were read by the SECRETARY, of which the following are copies, with an abstract of the accounts as submitted.

## DIRECTORS' REPORT.

The report, which will be read to you, from Capt. Wm. Richards, our manager, super-sedes the necessity of any lengthened remarks by your directors as to the operations upon the mine during the past year. The encouraging prospects which were adverted to in the last annual report, in reference to the ground east of Christie shaft, have been fully realised; and the workings of ore, of an excellent quality, from the back of the 90 fm. level, have contributed mainly to the support of the regular monthly samplings. The 100 fm. level, upon the same lode, is now approaching the ore ground gone down from the 90; there are still 2 fms. or 3 fms. yet to drive to come under it; and, from the indications in the bottom of the 90, there is every probability of its being equally productive. Garden's shaft, upon which the new engine has been erected, is sinking below the 90 fm. level; at this level a very fine lode was intersected, which has been driven upon east and west for about 25 fms., laying open some valuable ore ground. These are all the operations at present carried on at Christie; but, when the two ends, between Christie and Garden's shafts, at the 90, are communicated, which will shortly take place, it is intended to extend the 80 fm. level, which has only been partially driven.

With respect to Good Fortune, some disappointment has been experienced in prosecuting the deeper levels, which have not realised the expectations that were anticipated. The shaft has been sunk to the 80 fm. level, and the lode driven upon for a few fathoms west, and, although very large, is unproductive; this level has, therefore, been suspended. The 70 fm. level has been extended for upwards of 50 fms. upon the course of the lode—but so far without success, although the present appearances are more promising. The returns from this part of the mine are, therefore, derived from the reserves of ore in the 50 and 60 fm. levels; but, from the present low standard, they do not keep pace with the expenditure. There is a cross-cut driving north, at the 50 fm. level, at Good Fortune, the object being to cut the North, or Stranger, lode, which had been very productive in a part of the mine which has since been suspended; and as the workings at Good Fortune afforded facilities for making a trial, at a depth below what it has been seen before, the cross-cut referred to was commenced, and a short time will, in all probability, prove the result of the undertaking.

Your directors have the satisfaction to announce to you, that a new lease for the entire self has been voluntarily granted by the lords, for the usual term of 21 years, which will include the additional valuable piece of ground west of Garden's shaft, adverted to in the last report. This is an acquisition that will, no doubt, be duly appreciated.

An account of the receipts and expenditure, together with a statement of the assets and liabilities, will be laid before you, exhibiting an available balance, after liquidating all engagements, of more than 1500*l*. This cannot fail to be satisfactory, as showing a gradual improvement in the position of the affairs of the company. Your directors, in conclusion, have to acquaint you, that a vacancy having occurred at the board, by the resignation of Mr. Murray, the same has been filled up by the appointment of Mr. G. Thomas.

*Redruth, Oct. 3.*—As the captain's weekly report will go by this post, I need not enter into so many particulars as to the present state of the levels, &c. Since your last annual meeting, we have sunk each of our main shafts (three), a level of 10 fms. and upwards, besides cutting plans, and sundry other work. The ground in general has been hard, particularly at Garden's (which is a very large shaft); and, in consequence of the lode being still 6 to 8 ft. north, and, if anything, inclining north, we are obliged to leave it, and continue the shaft perpendicular, feeling assured that it will come into the shaft before it gets to the 100 fm. level, being generally a south underlie. At the 90 fm. level we have had an excellent lode of ore, even to the present end west, which is extended 14 fms., and for 15 fms. east; this will be communicated with the 90 west, from Christie, in a week or two, when this part of the mine will be well ventilated, and available for tribute. At Christie's shaft, the 100 fm. level is extended 18 fms. east, and a winze nearly communicated from the 90; this level (100) is improving, and just under the ore ground in the 90, which was 30 fms. long, and I expect will be equally productive; we shall soon resume sinking Christie's shaft below the 100 fm. level. Good Fortune shaft, you are aware, has been sunk to the 80 fm. level, which is extended about 12 fms. west, and, being poor, is suspended until the 70 west is further explored; this latter level has not turned out so well as the upper levels (60, 50, and 40), and hence our returns from this lode have been small of late. The 50 fm. level has been extended north 50 fms., and cut North Stranger lode; at present it is small and poor, but since opening on it only 2 fms. it has improved. Taking the mine altogether, I consider our prospects are good, and I look forward to giving, ere long, a fair profit.—WILLIAM RICHARDS.

Receipts and Expenditure, for Twelve Months.		Total	
Balance last account	£1132 16 5	Mine cost, Sept. to Aug., 12 mo.	£9551 2 7
Calls received	282 10 0	Lords' dues	577 7 10
Sales of copper ore	11,148 15 6	Land management expenses	359 9 6
Sale of materials, &c.	117 2 2	Overpaid call	5 0 0
		Balance	2418 4 0
Total	£12,961 4 1	Total	£12,961 4 1

Assets and Liabilities.		Total	
Balance	£2418 4 0	Merchants' bills	£1520 0 9
Ore sold 27th ult.	969 0 0	Lords' dues owing	358 0 0
Balance due on last call	31 5 0	Cost	60 0 0
Materials unsold	90 0 0	Balance	1570 8 3
Total	£3908 9 0	Total	£3908 9 0

The CHAIRMAN having expressed the readiness of the directors, to reply to any questions which might be put by any shareholder, having in their report conveyed all the information possessed by them, as to the prospects of the mine, Mr. BIRDSYKE congratulated the shareholders on the satisfactory reports and accounts which had been laid before them; and after the lengthened period which the mines had been worked, and the anxious expectations of the shareholders, he considered the time had now arrived, when the directors would be authorised in declaring a dividend of 5*s*. per share.

Mr. COMMANDER deemed it right to draw the attention of the meeting to the appointment of directors, as it appeared that, on the resignation of one, another was at once appointed by the remaining two directors, without the body of shareholders being in any way consulted. He did not, for one, approve of such course; it was far from courteous, or acting towards the shareholders in a way they had a right to expect. He begged further to add, that without some alteration took place, as regarded the time at which the meetings were held, it was next to a farce to call the shareholders together. Accounts extending over 12 months, and amounting to some 14,000*l*. or 15,000*l*. were read over; but it was absurd, to suppose that they could be understood by the meeting; he considered that periodical meetings, at intervals of two, three, or four months, should be held, when the accounts should be submitted. It was stated, that in the case of the Tincroft, or Callington Mines, which were conducted originally under similar regulations as the present, that, although the directors had full power to act independent of the proprietors, and were elected for life, yet that, on a representation being made to them by the shareholders, of a desire on their part, that meetings should be held at stated intervals—and, moreover, that one director should retire annually, and the choice of re-election or nominating a successor lie with the shareholders—such course had at once been readily adopted, whereby the wishes of the proprietors were consulted, and a resolution to such effect unanimously carried.—Mr. MOCATTA having recalled the attention of the meeting to the question more immediately before the chair, that of declaring a dividend, or otherwise.—The CHAIRMAN stated, that he considered it would be impolitic, in the present state of the finances of the company, to apply any portion of the surplus to the payment of a dividend; the ore bills, which had been referred to as a part of the assets, did not become payable until after the costs came due, and which would be required to be provided for in due course.—Mr. HERRON fully concurred in the view entertained by the chairman. He considered that 5 per cent. would be ample for the purpose of a reserve fund, while he found on referring to the scrip certificates, 10 per cent. was contemplated.

Mr. SMITH wished the chairman to state when the shareholders might expect a dividend—in reply to which, we understood the chairman to say, that he considered there should be in the hands of the company a surplus of 1500*l*. or 2000*l*. over and above the amount required for the dividend; the mine was looking well, and there was every reason to believe, that the day was not far distant, when the directors, who were largely interested, would have the gratifying pleasure of declaring a dividend, in which they would most gladly participate. The accounts now submitted, showed a balance in favour of the company, of upwards of 1500*l*.; the shares on which there was an arrear of calls, did not exceed 125*l*., and were virtually forfeited; but which the directors would restore on sufficient grounds being established, if that they might consider themselves warranted in so doing.

A lengthened discussion ensued, as to the propriety of holding meetings once in every three months; which being evidently the feeling of a majority of the shareholders present, was brought to a close by the chairman stating, that henceforth the directors would convene such meetings. He, with his co-directors, were most anxious to meet the wishes of the proprietors; but it was at the same time necessary they should adhere strictly to the rules by which the company was governed. A case had been submitted to their solicitors (Messrs. Atkins and Andrews), whose letter in reply should be submitted to the meeting, from which it was manifestly clear that the directors had no power; however, he was ready to meet the wishes of the proprietors, so far as was practicable. This assurance satisfied the meeting, and the subject dropped.—A further discussion ensued, on the subject of the election of two additional directors; but as such were deemed unnecessary, and a general expression of satisfaction being manifested, as regarded the ability and zeal of the present board, the question was not pressed.—The reports and accounts having been passed unanimously, and a vote of thanks given to the chairman and directors, the meeting adjourned.

WHEAL ROBINS.—At a meeting of adventurers, held at Webb's Hotel, Lisheard, on Wednesday, September 30, the report of the committee, appointed at the last meeting to examine the accounts from the commencement of the mine to the end of June, 1846, having been read, was approved and copied in the cost-book. The accounts, with the cost of July and August, showing a balance against the company of 225*l*. 8*s*. 1*d*., were allowed and passed; and Messrs. Lyne and Peter instructed to take such legal proceedings as may be necessary for the recovery of all arrears of calls now due.—It was also resolved, that the workings of the mine be immediately abandoned, and the materials drawn to the surface, and that the same be offered for sale, or disposed of, in such manner as a committee, consisting of Messrs. James Clymo, Thomas Milton, the purser, and captain, may think proper, and that they be requested to carry out this resolution with all possible despatch.—To meet the present liabilities of the mine, a call of 10*s*. per share was made, payable to the purser forthwith.

## CARADON UNITED MINING COMPANY.

A general meeting of the shareholders was held on Monday, the 5th October, at the offices of Messrs. Watson and Cull, St. Michael's-alley, Cornhill, at which the holders of 191 shares, out of 255, attended.—The accounts submitted were received and adopted, and the members of the committee of management re-elected for the ensuing 12 months.—It was resolved, that immediate steps be taken to enforce the arrears of calls, and, if necessary, that the merchants be requested to sue the defaulters.—A call of 2*l*. per share was made, payable during the present month.

The following statement of accounts was submitted:—

Dr.—London expenses for 12 months	£10 0 0
Merchants' bills paid (due last meeting)	56 11 6
Five months' costs (from April to August), including merchants' bills, per cost-sheet	632 9 3
Balance in hand	138 3 8
Total	£837 4 5
Cr.—Balance in hand at last meeting, 4th May	£105 5 5
Cash since received for arrears of call then made	155 19 0
Cash received on account of call then made	576 0 0
Total	£837 4 5

LIABILITIES AND ASSETS.		Total	
Bill outstanding	£40 13 5	Balance in hand	£138 3 8
September cost	145 0 0	Arrears due on calls	328 0 0
Total	£186 13 5	Total	£466 3 8

(By cash received on the day of the meeting, 13*th*.)

The following report from Capt. W. Penrose, dated Oct. 3, was then read:—

I am sorry to inform you, that, in the beginning of Sept., we met with a sad run in the 30 fm. level, in consequence of intersecting a great many branches in cutting the plan; some of them are from 6 in. to 9 in. and 3 ft. wide, and being very near two cross-courses—one to the east and the other a little to the west of the shaft—and these branches being composed of very soft gossan, gossan, and prain, with decomposed granite, and letting go a flood of water, brought a great quantity of stuff with it, which caused a very troublesome run. I suppose we hauled from 200 to 300 tons of stuff more than we should, if this had not happened; it frequently stowed the lifts, and also fastened the boxes in the working, which compelled us several times to break the lift of pumps—and not having a capstan, it caused great delay. The stuff which came away was principally from the branches, and found in them small portions of copper ore, yellow and grey. We have driven 3 fms. south across them, and are not yet to the south wall, and I have reason to believe, the main part of the lode is still to the south, which, from their present dip, they will not go out of the sett for more than 120 fathoms in depth from surface; and expect we shall have very easy ground near the shaft for the next 20 fms., after passing the first 5 or 6 ft. In order to secure this run, we find it necessary to drive from 3 to 4 fms. above the 30 fm. level, which we have commenced, and shall secure with hard wood and fuzes; and hope we shall succeed in completing in a fortnight, when we intend to resume driving the 30 fm. level south, where we shall intersect a great many lodes of a very promising character—one about 7 fms. south of the first lode, which is 3 ft. wide at the 7 fm. level, underlaying about 14 ft. in a fm. north, and composed of peach, capel, and good spar; No. 3 lode, south of the engine-shaft, is about 9 fms. south of the latter; it is 5 ft. wide, a very strong master lode, composed of gossan, quartz, and mudic, with portions of prain; this lode is nearly perpendicular: 10 fms. to the south of this, at the surface, we have seen another lode, 14 ft. wide, underlaying north 18 in. in a fm., which is in a white elvan course: about 10 fms. further south of this, we have seen another lode, 2 ft. wide, composed of peach, capel, and spar, underlaying north about 24 ft. in a fm., as it appears in the 30 fm. level—these three last lodes are likely to fall together or nearly so, which being so very near the junction in this place, and having a great many promising lodes near each other, in the midst of several cross-courses, I have every reason to believe we shall succeed in having a good mine by-and-by. At Penhale, we are still driving the adit east to cut the cross-course; we have met with it on the surface on the back of the adit, and find it underlays east full 4 in. in a fm., and are now sinking a shaft for ventilation, which lay down nearly 11 fms.; the back here is about 17 fms. We expect the shaft will intersect the cross-course 14 fms. deep; we intend then bringing the adit home on it, when we shall intersect a great number of very promising lodes, which we have seen at the surface: we should have had this cross-course long before, but at the junction of the granite and killas it greatly changed its underlay, which we could not foresee. I trust, now, our difficulties are over or nearly so.

The reading of this report gave evident satisfaction to the shareholders present, who expressed a hope that, in a short time, their confidence would be fully remunerated.—Thanks having been proposed and passed to the honorary secretaries for their gratuitous services, and the other officers of the company, the meeting separated, pleased with the prospects of the mine, and the proceedings of the meeting.

## WHEAL MARY MINING COMPANY.

A meeting of adventurers was held at the mine (Canivet, near Bodmin), on Thursday, Sept. 30th.—JOHN EDWARDS, Esq., in the chair.—The CHAIRMAN having made a few preliminary observations, relative to the prospects of the mine, and the accounts, called upon the purser (Mr. W. P. Williams), who presented his accounts, showing:—Balance brought forward from end of April, 4*l*. 16*s*.; May cost, 75*l*. 13*s*.; June cost, 73*l*. 13*s*. 7*d*.; July cost, 63*l*. 7*s*. 4*d*.; merchants' bills, 258*l*. 16*s*. 8*d*.—476*l*. 6*s*. 7*d*. By call of 1*l*. per share, made July 1, 256*l*.—leaving balance against the adventurers, 220*l*. 6*s*. 7*d*.—The following resolutions were passed unanimously:—That the foregoing accounts, having been examined, be allowed, and the balance of 220*l*. 6*s*. 7*d*. be carried to the next account.—That a call of 2*l*. per 1-256th share be now made payable into the Devon and Cornwall Bank, Bodmin, on or before the 10th Oct. next.—That the purser be directed (after demanding) to take the necessary steps to recover all arrears of calls.—That Capt. Peter's salary be increased to 4*l*. 4*s*. per month.—The following report from Capt. William Martin was read to the meeting:—In compliance with your request, I have minutely examined this mine; I found the lode No. 1, explored at the adit level, about 100 fms. in length, at a depth from 6 to 12 fms. below the surface; this is a lode of an unusual size, being from 10 to 20 ft. wide; the middle part, from 4 to 6 ft. wide is composed of a hard kind of green stone, thickly interspersed with veins and branches of strong rich yellow copper ore, and the other parts of the lode are soft gossan, prain, with rich veins and branches of copper ore and blende; the underlay is north, from 2 to 3 ft. in a fm., and the country is a soft white killas; the indications and character of the lode altogether present a very flattering appearance, which leaves no doubt on my mind of its producing great quantities of copper ore at deeper levels. The engine-shaft is about 3 fms. below the adit, and now in the hard part of the lode, No. 1, and producing fine stones of yellow copper, greatly improving by descending. No. 2 and 3 lodes are from 8 to 10 fms. south of No. 1, and I think these two lodes will unite in depth, and form one lode, being only 12 ft. apart at this shallow level. No. 2 is about 2 ft. wide, and No. 3 from 1 ft. to 18 in. wide, and laid open at this level about 16 fms.; each of these lodes are of a most promising character, composed of soft gossan, rich yellow and black copper ore, soft flookan, richly impregnated with black and green copper; the strata is of the most promising nature—white killas, thickly interwoven with mineral veins. No. 4 is 5 fathoms south of No. 3; this level has been explored about 7 fathoms, and is a very promising lode, composed of soft gossan, flookan, and small bunches of copper. No. 5 lode is about 10 fms. south of No. 4, and is driven on about 30 fms.; this lode is from 2 to 3 ft. wide, a fine gossan in the east end, with kindly indications of a productive lode below. No. 6 lode is 15 fms. south of last-mentioned lode, and is explored about 24 fms.; this is a large flookan lode, with bunches of gossan, impregnated with soft copper ore. No. 7 lode is 30 fathoms south of No. 6, and is driven on about 30 fms.; this is also a promising lode, and of a similar character to the other. No. 8 is a caunter lode, running in an oblique direction, and will intersect all the other lodes in the western part of this mine. No. 9 is about 2 fms. south of the caunter, and driven on about 3 fms.; this lode is also much of the same character and qualities as the before-mentioned lodes, there is a cross-cut driving north, and is now about 100 fms. from the engine shaft; about 90 fms. from the shaft a lode is intersected, 2½ ft. wide, a good gossan and near a soft elvan course—this elvan course appears to be from 3 to 4 fms. wide, running north-east and south-west, and underlaying south-east about 4 ft. in a fm.; this elvan course, I have no doubt, will have a good effect on the lodes in depth at its intersection. Taking a general view of the whole, and looking at the flattering indications so near the surface, the prospects, number and size of the lodes, together with the congenial character of the country, there is no doubt on my mind but that a few fms. deeper will enable this mine to be placed on the list of rich mines. I must say, according to my judgment, you are pursuing a very proper course of working; and, looking at the situation of the lodes, seven of them being south of your engine-shaft, and all of them underlaying north, your engine-shaft is in a very proper place, and a good distance from the western part of the sett; I also very much approve of the plan you are about to adopt in fixing machinery to whim for draining the water from the shaft below the adit with pumps instead of barrels—this mode of working will greatly facilitate your sinking, and will save a great expense in both labour and time. I think you will get down with the pumps 12 or 15 fms. below the adit; then drive to intersect the lodes at that level, where, I have no doubt, you will find good courses of ore on several lodes; I never yet saw such indications fail. I would advise you to lose no time in looking for a suitable engine, and would recommend you to have one of not less than a 45-inch cylinder; you will be sure to want it very shortly, and your present engine-shaft is the proper place for it. There cannot be a shadow of doubt as to the result of the mine; and, if it should possibly prove to be a failure, the present prospects and indications are a sufficient apology in justifying the most cautious miner in recommending all the outlay anticipated.—W. MARTIN.

HOBBS' HILL MINE.—A general meeting of the adventurers was held on the 6th inst., at which it was shown that several calls remained unpaid; and it was resolved, that the purser do make another application for the amount now owing, or to offer, on the part of the company, to any shareholder, who may feel disposed to give up his shares, the option of doing so, on condition that they send a transfer for the same to the purser, who will return a full discharge for any liabilities on the mine, as well as the arrears now owing; that beyond this, no notice be given; and that, if one of the above propositions be not complied with, at the end of a week from the date, steps are to be immediately taken in the Vice-Wardens Court—the above not to apply to the calls due by Mr. H. Westcott, of Plymouth; that a call of 1*l*. per share be now made—10*s*. to be paid on or before Tuesday, the 27th inst.; and the other 10*s*. on or before Tuesday, the 1st of December next.

CLEVELAND MINE.—At a meeting, held at the mine, on the 30th of Sept., the accounts were examined and passed, from which it appeared, that the costs for five months ending August, were 291*l*. 4*s*. 3*d*.; merchants' bills, 50*l*. 14*s*. 6*d*.; balance from last account, 110*l*. 17*s*. 8*d*.—452*l*. 16*s*. 7*d*. Received on fifth call of 30*s*. per 1-166th share, 249*l*. 16*s*. 7*d*. showing undivided loss of 204*l*. 16*s*. 7*d*. It was resolved, that a call of 30*s*. per share be made payable immediately; and that the next account be held on the 29th of December next on the mine; the calls unpaid were only 3*l*. The following report, from Capt. Kernick and H. Rogers, were read:—The new shaft is now holed in the deep adit; it is 83 fms. deep and will be completed to day. We propose driving west on the north lode by four men, near the present end; on this lode we have a pitch working at 8*s*. in the 1*l*. We also intend driving west from the shaft at the deep adit to cut the lodes south of the north lode. We shall also put four men to drive west from the shaft, 15 fms. above the deep adit, to cut these same lodes, and it will take us two months to open on the lodes to get much returns from them.

TREWILLACK MINE.—A meeting of adventurers was held at the counting-house of the mine, on Monday, the 28th ult.—J. EDWARDS, Esq. (of London) in the chair.—The CHAIRMAN expressed his regret, that the managing agent (Capt. John Lean) was precluded from attending the meeting, in consequence of arrangements previously made, and found impracticable to postpone; but his report would be shortly furnished for the information of the shareholders, and which (he felt convinced) would meet their entire satisfaction. The confidence which Capt. Lean had of the ultimate productiveness of the lode, progressed with the continued development of the mine: he (the chairman) fully confided in the opinion and abilities of their agent, and trusted that a few months only would elapse before their anticipations would be realised. Mr. HENRY ELLERY, the purser, presented the accounts, showing cost of tutwork for March, and merchants' bills, 276*l*. 1*s*. 9*d*.; ditto April, 100*l*. 1*s*. 5*d*.; May, 162*l*. 5*s*. 10*d*.; June, 144*l*. 7*s*. 5*d*.; July, 251*l*. 13*s*. 3*d*.; balance to end of Feb. 271*l*. 6*s*. 11*d*.—total, 1265*l*. 16*s*. 7*d*. By call of 3*l*. per 256th share, 768*l*.—leaving balance due end of July, 497*l*. 10*s*. 7*d*.—It was then resolved, that the accounts for March, April, May, June, and July, 1846, having been examined, showing a balance due from the adventurers of 497*l*. 10*s*. 7*d*., that the same be allowed.—That a call of 4*l*. per 256th share be now made, to liquidate the accounts, and for the further prosecution of the mine: to be paid to the purser on or before the 10th of Oct.—[Capt. Lean's report will, no doubt, be furnished us, when we will give the earliest publicity to the same.]

WEST WHEAL GRAMBLER.—At a meeting of adventurers, held at the London Inn, Redruth, on Monday week, the accounts were read and allowed, and a call of 1*l*. per share made.—Expenditure since last account, 360*l*. 16*s*. 10*d*.; balance due to purser at ditto, 105*l*. 4*d*. 4*d*.—466*l*. 0*s*. 2*d*.—By sales of ores, 119*l*. 6*s*.; amount of last call, 333*l*. 10*s*.—452*l*. 16*s*.—showing balance against adventurers, 13*l*. 4*s*. 2*d*.

WHEAL DYKE.—At a meeting of adventurers, held on Friday week, at the mine, the following accounts were submitted and passed:—Balance due purser at last account, 88*l*. 9*s*. 4*d*.; costs, &c. (including one third of engine-shaft and works at Rose Consols), 363*l*. 2*s*. 8*d*.—By call, and arrears of calls, 245*l*. 10*s*.—leaving a balance now due purser, 201*l*. 2*s*. A call of 30*s*. per share was made payable immediately.

WHEAL MEXICO.—A meeting of shareholders was held at Callington, on the 1st October, for the purpose of considering the necessity of suspending further operations in the mine.—Rev. E. T. MAY, in the chair.—After a fair and full discussion of the propriety of making another call, or the abandonment of the mine—the following resolutions were proposed, and unanimously adopted.—That the accounts having been examined, be allowed and passed.—That the further prosecution of the adventure, known as Wheal Mexico, be, and the same is hereby, stopped; and the purser is hereby authorised, to procure the sale of all the machinery, pumps, &c., on the mine, and to divide the proceeds thereof, after having paid all just demands on the Wheal Mexico Company.—That the purser, Mr. W. May, be indemnified, and held harmless against all actions at law, which may be brought against him by any person on account of the said mine or mining company.—That Mr. Huxham be appointed by the purser to sell the materials on the said mine.—In consequence of these resolutions, as soon as matters can be arranged, a sale of the materials will take place, and a dividend of the proceeds, after all claims have been liquidated, will be made to such shareholders as have paid the last call.

WHEAL CURTIS.—We are informed that the researches at this mine are proceeding with spirit. In addition to the Curtis shaft, down 47 fms., a new shaft has been commenced, and is sunk upwards of 12 fms. A new lode has been discovered in the former at 20 fms. depth, called Wheal Dumping lode, and which holds out indications of a superior character to the Wheal Curtis lode. We have been shown some specimens of the ore from the latter, which consists of a rich yellow sulphuret and peacock ore, largely disseminated through the matrix. The engine-house is proceeding rapidly, and the walls are now considerably above the surface. It will be seen, by our advertising columns, that the 15th is the last day for applications for shares; and we hear that 2700 out of the 3000 are already allotted, and the deposit on a considerable number paid. The parties appear to be proceeding with considerable spirit and confidence; and sanguine hopes are entertained, that it will prove a highly successful speculation.

## [FROM CORRESPONDENTS.]

BIRCH TORR.—Since the annual meeting (published in the *Mining Journal* of 19th ult.) upwards of 900*l*. worth of tin has been sold—one parcel realising 58*l*. per ton. In the 62 fm. level the end is very good, and also the backs, and it is believed that she will become the first tin mine in Devon. By the use of Brunton's frames a vast saving is effected. No shares are in the market, the holders fully anticipating a great price for them.

KIRKCUDBRIGHTSHIRE MINING COMPANY.—We are glad to learn, that the mines belonging to this company are looking well—one of the lodes is, at the present time, yielding 2 tons of lead per fathom. The sett, which is nearly two miles square, contains several lodes; and the operations, we are given to understand, are contemplated being of a more extended character—the mine fully warranting an increased outlay in developing its resources.

TRELAWNEY never looking better than at present, particularly going north and there is every probability of the returns being increased, and her making a good and lasting mine.

TREHANE, we are informed, is also looking very promising, having now about 15 tons of lead for sale; and they are sinking below the 20 fm. level, through a good course of ore.

WHEAL BLENCOWE.—The following report has been received from a practical mining agent, who has inspected the mine.—In the western end of the 10 fm. level, the lode is about 18 in. wide, with very good work in it, and is worth about 4 cwt. of tin per 100 sacks—a sack being estimated to contain 12 gallons—which will pay very well for working. The lode in the eastern end at the same level, is from 9 to 10 ft. wide, this is worth about 3 cwt. of tin per 100 sacks, and is what we term a good lode, turning out plenty of work, being so very wide; above this lode there lies large workings, which were worked by the old men, which I take to be a very good sign. The backs are working on tribute at 10*s*. in the 1*l*, and they are now progressing with their ends so as to give more backs for tribute. In the 20 fm. level (which is the bottom at present), they are only driving the eastern end, which is now disordered by a floor of killas, and this proves a common occurrence in this mine. A few fathoms from this end they have a very good lode, varying from 1½ to 2 ft. wide, and is worth from 16 to 18 cwt. of tin per 100 sacks; but they cannot work it until they have gone deeper; it is the best bunch of tin in the mine, and may be considered a good indication to see such a lode in the bottom of the mine, and at so shallow a level. Their adit is 11 fms. from the surface, so that the depth of the shaft is 31 fms. They expect to sample this month 4 tons, and there is every probability that the next 2 months' sampling will amount to 8 tons, with every prospect of continuance.

WHEAL MARY ANN (adjoining Trelawney) sold this week her first parcel of ores, consisting of 43 tons, at the high price of 21*l*. 1*s*. per ton; and we are informed that the ends and stopes are looking very well indeed, and they are now sinking below the 15 fm. level, on a good course of ore.

## SALES OF LEAD ORES—TICKETING PAPERS.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—I am a considerable proprietor in one, and a small shareholder in several, of the mines of this neighbourhood, which sell their ore by ticketing at Holywell. I feel greatly obliged by your exposure of their proceedings, as I have no doubt that the smelters practice all sorts of rascalities, as do most other people when they can, with impunity. An increased competition must be good for us miners, and I hope to see all the ore going to Llanelly, provided I get a better price for mine. As you seem to know everything about the way things are managed by the "triumvirate," will you please inform me how your exposure in the *Journal* of the 3d inst. can have affected prices three years back? and what your statement of bids and buyers proves beyond the fact, that one of the "triumvirate" has purchased so many more tons than the others. This proves nothing as to the price we get—for I believe the smelters all bid for different ores, according to their contents of lead and silver, and it is idle to suppose that all ores are of the same value; or why, when the "triumvirate" are agreeing the rate they will pay, do not they fix the minimum value to all, and not vary their bids, as I know they do, between a range of 5*l*. and 82*l*. per ton? Those who get the latter price ought to be much obliged, indeed, if the obtainers of the first are satisfied; and, I must say, I never heard any grumbling at the sales, and I have been at the breakfast very often. I suppose we are but simple people, and you are right; but we have been always told, that Messrs. Hancock and Co., Messrs. Roskell and Co., and Mr. Eytton, discontinued buying ores, because Messrs. Walker and Co., and Messrs. Newton and Co., gave such prices as would not enable the others to get any profit,—and that Messrs. Mather and Co. only maintained their position, because they had the pull, to which you allude, by having secured the desilvering patent. If there are the great profits, to which you allude, I wonder that Messrs. Hancock, &c.



Roskell, and Eyton, all pretty sharp and "cute" fellows, do not return to the trade, as they readily might do, inasmuch as their smelting establishments are standing idle, and going to the worse for want of employment. Before Messrs. Newton and Co. and Messrs. Walker and Co. were smelters, I have often known ore unsalable; but, since they came into the trade, I have known as much as 1300 tons sold at one breakfast, and let the quantity be what it might, there was always a market with but few shillings per ton discrepancy; and, as our sales are for bank notes that day month after the sale, I have often wondered how the cash was provided, for there was never any difference, whether the quantity was great or small—the money was always there, and I must say I like this bank-note system better than bills at three months; in fact, we Welsh miners could not make our pay, if we had not the notes. I am looking forward to the expiration of the desilverizing patent, as a period when we shall obtain somewhat better prices for ores; but not much. Against this, though, it is said, that Messrs. Mather will obtain an extension of seven years of their patent; I fancy all the present and late smelters will object to this; but Mr. Mather is very powerful, and has, doubtless, made a large fortune from the proceeds of this patent. Though Mr. Eyton constantly attends the sales of ores, he scarcely ever buys any by ticketing; what he does he manages better; he is a very extensive collier, and he barterers coal for small parcels of ores with needy adventurers. My ores for the last nine years have averaged only between 10s. and 13s. per ton. I shall feel greatly obliged if, by your exertions, they should average the next nine years 34s. per ton more; but my ore contains only five ounces of silver, and they tell me that is worth nothing. I feel confident that all we miners are cheated, and we look with confidence and hope to your exertions for better prices still.—*MINEER: Holywell, Oct. 7.*

[The authorship of this letter is evident, though we cannot so readily divine its object; but we give it insertion, as it may possibly prove the means of producing something more to the purpose. What we complain of is, the secrecy observed respecting the prices given for the ores, and the parties who purchase them. Why not, as with copper, furnish a copy of the Ticketing Paper for publication in the Journal? Such course would prevent much of the dissatisfaction now expressed by shareholders in the different lead mining companies, and tend materially to remedy any irregularity which may exist in present arrangements.]

#### SHARE JOBBING IN TAVISTOCK—EXMOOR ELIZA.

SIR.—Your correspondent on the above subject, in the *Mining Journal* of last week, with singular inconsistency, after his attack on "anonymous slanderers," has, "assassin-like, behind a screen," under the signature of "X. X. X." directed his "venomous shafts" towards Exmoor Eliza Mine, which I believe they will injure less than the paper wasted by his "valueless insinuations." It may be asked, why I reply? My answer is, because I have been accused of being the author of the letter, bearing the signature of "Fair Play"; in return, I may ask, why has Exmoor been selected, to parry "Fair Play's" remarks?—A few words on the Exmoor "bubble," as "X. X. X." terms it, are required in consequence. Early in December, 1845, a printed prospectus was placed into my hands, of a mine, called Wheal Maria (a name to which I objected), having a lode 6 ft. wide; the bearer, on delivering the prospectus, also produced some fine specimens of gossan and copper, said to have been taken from the lode; I, with another, took all the shares not then applied for; but, being cautious, wished to have a competent judge to inspect the mine. I sought the advice of Mr. J. H. Hitchens, who recommended and kindly allowed Capt. James Phillips to go with me. Capt. Phillips's report, dated 17th December, 1845, has been published at length in the *Mining Journal*; an extract runs thus:—"The lode is large, and composed of gossan, with stones of copper ore in places, presenting indications rarely to be seen at a similar depth, and is, in my opinion, worthy of an effectual trial." On January 9th, 1846, Captain B. Cooke also reported highly of the lode. Feb. 6, 1846, Capt. G. Francis writes:—"A lode has been opened on at the surface, varying in size from 20 to 30 ft. wide, for upwards of 100 fms. in length, producing some fine yellow and grey ore, in the most promising gossan I have seen for years." In short, the representations of the prospectus were much under the mark; for, instead of a lode 6 ft. wide, there was either a lode, or junction of lodes, upwards of 26 ft. wide. The concern has been visited by many agents of experience, and a very high opinion of it has been expressed by all. Very recently, C. Fox, Esq. (a gentleman of judgment unquestioned by the mining public), by letter, stated, Captain Phillips's report "appears to me to be a fair statement of the appearance of the lode which I have seen." The documents from which the above extracts are made are in my possession, and open to the inspection of any shareholder. I was, and am, the largest shareholder in the concern, having lately purchased, and am still a purchaser; I have never sold any shares unconditionally, although I have exchanged six for four in Franco, with parties competently advised. The lode, or what has been taken from the lode, has been pronounced highly promising by five agents in the employ of Mr. Hitchens, in addition to eight agents employed in the eastern district of Cornwall, 15 Devonshire agents, and a great number of other experienced miners. Sept. 15th, Capt. Phillips told me that Mr. Hitchens said, if the lode was in this district, it would sell for a very large sum of money; I have not been a seller; I never asked Mr. Hitchens to purchase a share, or lend his name to the concern—"X. X. X.'s" "insinuations," therefore, are "valueless" to me, because they are unintelligible. I might remind the Editor of the *Mining Journal* my refusal to name a price for shares to Mr. Snell, when the latter gentleman asked me. Exmoor Eliza, although esteemed so highly by judges, is, like other untried mines, a speculation—whether a good one, or otherwise, remains to be seen, and will stand or fall on its own merits; then will be a sufficiently early period to apply the epithets of a "disappointed and chagrined shareholder," should the result be unfavourable; I hope, in such a case, to have the fortune to bear the epithets.

Before concluding, I disavow being, in the remotest degree, connected with the authorship of "Fair Play's" letter; this, I apprehend, is unnecessary, as it respects Mr. Hitchens. "X. X. X." must excuse me, if I do not consider him a good defender of Mr. Hitchens, who is thoroughly capable of defending himself, if he think it requisite. I think it probable that I have known Mr. Hitchens as long as "X. X. X.," as well as the majority of the persons of this neighbourhood connected with mining; I am bold to affirm, that the mass of persons conversant with Mr. Hitchens's exertions, and the difficulties thrown in his way, were delighted when Maria was discovered, believing that his struggles only met with a proper reward, and that he had conferred, directly and indirectly, great benefit on all classes of this district. It may be, that in his prosperity he is more courted than when the mines were not flourishing, but that he was ever despised when not in affluence I deny, notwithstanding "X. X. X.'s" inference. "X. X. X." says, "he is neither an agent, nor a satellite of the 'mining king,' and that he never bought or sold a share in a mine, nor does he possess one." If I guess right, "X. X. X." has been, in reference to mineral wealth, both in a foreign country and this, like Tantalus; and it must be conceded by all, that his opinion, in reference to a mine, of which he has neither seen the lodes nor their contents, is as "valueless" as his "insinuations;" may I add a caution how, in future, he directs his much-to-be-dreaded "venomous shafts," lest they are diverted from their intended results. R. SLEMAN.

Tavistock, Oct. 6.

#### MINING IN THE CARADON DISTRICT.

SIR.—Having for some years taken up your valuable paper, I have been much pleased of late with the manner in which you have exposed the unfair, unjust, and consequently dishonest, proceedings of certain individuals connected with the mining interests in this, and the adjoining county, who have learnt the "artful dodge" to perfection, and thereby have made for themselves pretty heavy purses, at the cost of their unsuspecting victims. When the great mass of ores was discovered in the justly-celebrated "South Caradon Mine," the sets of the surrounding lands, in every direction, for a considerable distance, were eagerly sought after, and generally obtained—(as to the value of many of them I shall offer no remarks)—and it was soon found that the greater part of them were taken by two parties, Messrs. Clymo and Co., and the Quakers, each party began to sell shares in this neighbourhood, as well as in London, and other places, to a very large extent, which very soon gave rise to several brokers in this town, who no doubt have a large amount of "artful dodgery" to answer for; but among this lot, there is one whose superior skill and cunning has left his "comrades" very far behind—being most intimately acquainted with all the shareholders and their circumstances in the mines held by the latter party, in order to accomplish the "artful" with the becoming grace and sanctity of the "class" to which he belongs, has established a "satellite," of abilities not much inferior to his own, in London, with whom he has regular correspondence for the accomplishment of his nefarious practices with success and profit—this is done by his—(looking over the *Cost-Books*, he sees who are the most likely parties to sell in case a depression takes place in the price of shares)—offering a share at a great deal below the market price to some of the brokers here, which is soon communicated to the London adventurers by their brokers and agents, and the consequence is, that a mine that to-day is at a premium, to-morrow, or in a few days, is at a great discount—at least, fallen off at from 10 to 30 and 40 per cent. in the price of shares. Now, this answers his purposes exactly; having sold one share at a low figure, he immediately purchases up many at a much lower price through his London coadjutor, who soon finds out who has them for sale in that market—and no person suspects who has them, or who is the real holder. As to the prospects of the mines, they have not in the least degree become less promising or productive, but many persons, from a fear of losing, perhaps their all, are glad to sell for what they can get; who, had the management of their interests been vested in persons that adhered to the great principle of "doing to others as they would be done by," would have retained their interests, and ultimately might have realised the reward of their outlay in a good dividend. There are many in this town that have been victimised in this way, and have lost what they were years in accumulating; others, who have capital, and could speculate, are, by witnessing this dishonest state of things, deterred from doing so; and very soon, if some of the mines do not become productive, mining, as a source of profit and labour to thousands in this district, must be seriously retarded, if not many of the sets of great promise be abandoned. Having the fullest confidence in your impartiality to give these few

remarks an early insertion, I would beg to call the attention of your numerous readers, and especially of those who, with myself, have suffered from those unprincipled individuals, to suggest some mode, to secure our interests for the future—the only one that presents itself to my notice which meets the case, is, that no captain, and especially the purser shall be allowed to hold shares in the mines of which they are the agents—it certainly seems hard to exclude them; but it is evidently one means in the adventurers' power, to counteract the system practised in this district by unprincipled and selfish individuals. I hope some one will enter more fully into this matter, and give it a thorough exposure. F. G. S.

Liskeard, Oct. 3.

#### ACCIDENTS IN MINES—OPEN PIT WORKS.

SIR.—The melancholy accident of a purser falling down an old shaft—and your remarks, that it was disgraceful to the agents of mines to allow these pit falls to be entirely open, when a trifling expense would render such accidents impossible—has touched a cord of recollection. Nothing ever gave me such a forcible impression of carelessness of miners, or some persons connected therewith, than a short run over Halkin Mountain, in Flintshire. I had often read the beautiful allegory of the "Vision of Mirza," and the Bridge of Life full of holes, but I never saw anything like the bridge in reality, until I saw Halkin Mountain. There the practice seems to be, dig a pit; and, when exhausted, remove what is valuable from the mouth, and leave the pit unfilled, uncradled, or unprotected—and, in many cases the grass has grown over the rubbish and nearly concealed the trap, and many of them seem like the snare of a siren—they are to be found even in the centre of a pathway; and I saw one so near a cart-road, that a portion of the road had given way into it, and a traveller could not pass between a cart and it with safety; so little are these things thought of, that I saw one in front of a row of cottages, and not above 10 yards from the doors—the only protection being a few stakes driven in, about 18 inches apart, around which were a group of little children playing. I could not help wondering, if such things were considered necessary to make the young miner accustomed to the dangers that would surround his after life. Is there no law to oblige the proprietors of pits to fill or cradle them when out of use, and who should be compelled to fill such as these in the Halkin neighbourhood? If the miners themselves would notice these things, and never be satisfied while one lay open in their locality, it would not fail to engender habits of more carefulness in the young.—J. B. N.: *Tabernacl-square, Oct. 7.*

#### MINE ACCIDENTS.

*Cook's Kitchen Mine, Cumborne.*—On Monday last, a lad, named Webster, was killed by the bursting of the boiler of the stamps' engine.  
*Treasure Mine.*—J. Lawn was killed by a premature blast in 248 ft. level.  
*Abernant Works, Aberdare.*—J. Thomas was killed, two miners dreadfully injured, and three others slightly, by an explosion of fire damp at the No. 4 level.  
*West Bromwich.*—An explosion took place in one of the collieries of the late Mr. Horton, at Lytleton Hall, by which three lives were lost, and several miners dreadfully injured. It appeared that Mr. John Baylis, the "doggy," or manager of the pit, had gone down, as usual, with the miners—24 men and boys. As was customary, he tried the workings with the safety lamp; and in the first side of the work he discovered an accumulation of fire damp. He set the colliers to disperse it, and shortly after went to the other side of the work to ascertain whether any fire damp had been forced into it out of the first. In about 10 minutes after, the explosion took place. It is impossible to tell how it occurred; but the probability is, that it was through the carelessness or negligence of some of the colliers (who are always anxious to get to work as soon as the fire damp is dispersed), taking a lighted candle into the workings—the reckless individual, probably, paying the penalty of his imprudence with his life. Its effects were very afflicting. Seven of the unfortunate men, who were engaged dispersing the gases, were dreadfully burned, their bodies in some parts being literally roasted by the flame, and blackened by the clouds of vapour. Suspended in the skip, about 80 yards down the shaft, which is sunk to the depth of 300 yards, were J. Robinson, the engineer, and W. Hadley, a workman, engaged in repairing the shaft when the explosion took place. The hot air, which rushed up the shaft with irresistible violence, carried the skip and the men for some distance upward, when it became unhooked from the rope to which it was attached, and these two unfortunate persons were precipitated to the bottom of the pit—a depth of nearly 800 ft. They were awfully mutilated; and, in their blackened, shattered, and mangled remains, it would have been difficult even to trace the outline of humanity. Their remains, as soon as possible, were gathered up and removed; and the sufferers by the burning were conveyed home. A lad named J. Cash, was dreadfully scorched. He had been at the bottom of the pit at the time, and was completely enveloped in flames. Mr. Baylis fortunately observed his condition, ran to his assistance, and succeeded in extinguishing the burning clothing which hung about his body. He was carried home, but his injuries were of such a nature as to preclude all hope of recovery, and, after enduring intense agony, death terminated his sufferings on Tuesday forenoon. The other men were also attended to with the least possible delay; their names are J. Watson, J. Smith, P. Brown, L. Fletcher, J. Wilkinson, and J. Walllett. With the exception of Watson, who lies in a very dangerous state, hopes are entertained of their ultimate recovery.

*Oldbury.*—J. Powell was killed by a fall of coal in Messrs. Hunt's colliery.  
*Casop Colliery.*—J. Bell was killed by a fall of stone and rubbish.  
*Beaufort Iron Works.*—T. Jones, a furnace filler at Beaufort, while in the act of charging the furnace he worked at, fell in with his charge into the liquid metal, and in a few moments his body was burnt to a cinder; a man employed on the same spot observed his heels as he went down, but, before the blast could be taken off, and assistance at hand, there was nothing seen of him but the burning limbs.

*Stella Colliery.*—J. Veitch has died of injuries he received on the 25th July.  
*Milton Iron Works.*—J. Mellon was caught by the shaft, and killed.  
*Rainton, near Durham.*—A sad accident has happened in the Alexander pit, the property of the Marquis of Londonderry: it appears, that John Streaker (deputy overman) left the pit, perfectly safe, to all appearance, on Saturday afternoon—there being, as usual, two oil lamps burning, but which, it was considered, could not have caused the pit to fire; but, on the following morning, appearances at the down cast shaft intimated too truly that an explosion had taken place; and, on descending the pit, Richard Scott—an old man, aged ninety years, who had been left in charge of the furnace used for ventilating the shaft—was found lying beside the furnace quite dead; and, on reaching the stable, a dreadful sight presented itself—the whole of the horses, seventeen in number, had been destroyed.

*LORD LONDONDERRY—PIT VILLAGES.*—Collating the opinions formed of Lord Londonderry among the Citizens of Sunderland, with those expressed by the collier-workmen themselves, truth demands that a high character for kindness should be given him. Notwithstanding the soreness left in the minds of some from the failure of the great strike in 1844, the miners generally testify that the Marquis's liberality of character is prominent among coalowners. His encouragement of schools in the pit villages, especially, deserves commendation. He is said to be expending 3000l. per year, at present, in this way. The degree of instruction afforded in these schools, at the cost of but 1d. per week to parents, and the qualifications of some of the teachers employed, by no means can be lightly estimated. The villages built by the Marquis of Londonderry and other coal proprietors, are social assemblages of high interest to one accustomed to see the miserable nuisance-nooks, such as are found in a large part of the very town (Sunderland) from which I date this paper. The houses of the pit villages are built in rows, are generally uniform in size, and are covered with slate, thus presenting an attractive outside, save that the houses are low, being limited to one story, or, at best, a narrow cockpit above the day-room. In the older villages, one large room was the limit of convenience; but in the new villages two ground-floor rooms, and in numerous instances a good space of garden, is allotted to each collier. Coals are also uniformly allowed for each family's consumption. The interior of these houses is usually very cheerful to look upon. With here and there an exception, they are charmingly clean and neat; and the wives and children of the colliers look happy. A good eight-days' clock, a really handsome four-post bed, a chest of drawers, and a turned-up mahogany table, are common—almost invariable items of the collier's furniture. What a glad contrast to hundreds of working-men's dwellings I have seen! It may be readily understood that some providence has preceded a marriage where a working-man's habitation presents such proof of comfort. Yet the earnings of colliers are not now generally high: few earn more than 17s. weekly, and the majority of pitmen earn considerably less. May it not be fairly argued, that where a capitalist pays a degree of regard to the comfortable housing of his workmen, corresponding providence on the workman's part will be the beneficial result? Is not the collier's house a striking proof of what might be expected, generally, from English working-men? *Correspondent of Terrell's Newspaper.*

*IRON-WORKS IN RIO DE JANEIRO.*—About two years ago an iron foundry was established in the vicinity of Rio de Janeiro, at a place called Ponte de Area, which succeeded beyond all expectations. A first-rate capitalist in that city has recently purchased it, and is determined to spare neither expense nor pains to bring it to perfection. Already, all the machinery required for the sugar plantations, steam-engines, ashore or afloat, have been produced there nearly equal to those of Maudslays, and Rio de Janeiro is likely to become shortly a rival, not only to the steam-engine foundries of London, Liverpool, and Glasgow, but to contest with them, the supply of all South America with articles for domestic purposes. There is, however, one consolation, that the more successful the Brazilians are in competing with us in any one particular article, the more able they will be to purchase others—such as cotton, linen, and woollen stuffs.

*IMMENSE CONTRACT FOR IRON.*—There is an accredited rumour here (says the *Hereford Times*) that Sir John Guest, Bart., of Dowdals Iron-Works has just completed a contract to supply 200,000 tons of iron rails at 107 per ton—the total value of which will be 2,000,000l. The same iron three or four years ago would have been sold at from 55 to 65 per ton! It is to be hoped that the operators throughout these immense works will participate, by a liberal advance of wages, in the vast profit to arise.

A New York paper informs us, that the Portsmouth and Roanoke Railroad was put up at auction yesterday, and bid off by the agent of the Board of Public Works, on behalf of the State, for \$60,000. There were only two bids besides those of the State; one by the town of Portsmouth, and one by a gentleman from the north desirous of purchasing for the iron rails.

**BRISTOL AND POOLE HARBOUR RAILWAY COMPANY.**—We have before us a prospectus of a company formed for the construction of a line of railway from the large and populous commercial city of Bristol direct to Poole, in Dorsetshire, embracing the populous towns and villages of Whitechurch, Pensford, Clutton, Shepton Mallet, Bruton, Castle Cary, Wincanton, Stalbridge, Sturminster, and Wimborne Minster, to Poole Harbour. The value of a line of this description appears visible at a glance; extending rather upwards of 65 miles, in an almost direct line, across the counties of Dorset and Somerset, through the above fertile districts, containing an immense population; and, with less than an average of engineering difficulties to surmount in its construction, this railway, if completed, will evidently possess capabilities, in a commercial point of view, scarcely to be equalled. Bristol, with its large mercantile population, its proximity to the great iron and coal districts of South Wales, and uninterrupted railway intercourse with the large manufacturing districts of the midland counties and the north of England—and Poole, with its noble harbour and extensive shipping trade, so peculiarly situated for direct intercourse with our southern coast, the Channel Islands, and the whole southern ports of Europe, will be brought within a railway distance, for the transit of heavy merchandise and minerals of about four hours, which now, by ship, the only means of transport, take on an average 10 days; and to accomplish which, there are now employed, in the port of Poole, for the voyage round the Land's End, about 4000 vessels, averaging 130 tons, with six men to each, at about 60l. per month, and showing a loss of about 10l. for days detained, or 40,000l. per annum, which this line would entirely save; in addition to which may be mentioned loss of life, insurance, &c., amounting every year to a large sum. A number of these vessels are employed in carrying the famous Plaster of Paris from near Poole, round the coast to Bristol, for the Potteries. This line would save the foreign vessels—such as Dutch, Danish, Swedish, Russian, &c.—from putting round the Land's End at a vast saving of time, greater economy, and perfect safety, by putting into the harbour of Poole, which by this line would be amply supplied with every description of goods, which can now only be obtained at Bristol, Swansea, Newport, &c. Among the various sources of legitimate traffic, which it would appear must be transported by this line, we may mention coals from the Somersetshire-fields and South Wales, of which it is calculated, on a very fair estimate, that the returns for carriage would be 100,000l. and, allowing 40 per cent. for working, would leave a clear 6 per cent. per annum on the capital from this traffic alone. This coal would be supplied for domestic use along the line at a reduction of from 6s. to 7s. per ton, and the Channel Islands and France at one-third less than the price now given. The product of the stone quarries, iron mines, clay pits, &c., on the line, the minerals and metals for exportation from South Wales, sand from the Isle of Wight, for the manufacture of glass, the agricultural, pastoral, and mercantile produce of its own district, and the passenger traffic which must arise, all point to this railway, as holding out the most rational and convincing hopes of making as ample a return for the capital invested as any railway yet constructed. The capital is to be 1,000,000l., in 50,000 shares, of 20l. each, with a deposit of 2l. 2s. per share.

**THE CALEDONIAN RAILWAY.**—We have great pleasure in noticing the rapid and satisfactory progress which this national and gigantic undertaking is making along the line. At the deep cutting near Ecclefechan, and the heavy forcing over the Mein, considerable progress has been made. Between Ecclefechan and Lockerby the railway crosses the mail-road twice, and the works appear well advanced. The bridge across the Water-of-Milk is being built. This bridge, it is said, will be the principal one on the whole line. At Lockerby great progress has been made, and in some places the permanent rails are laid. The bridge above the town, for carrying the Dryfe-road over the line, is nearly completed. Preparations for the Lockerby station have commenced. Between Lockerby and Haddingburgh the railway crosses the road twice, a deviation in which has been made, and a bridge is well up. At Cogrie the bridge piers are above water-mark. At Moffat, where a number of the navies reside, no disturbances have taken place. At Gretna there is a very heavy cutting, upwards of 60 ft. deep. Three tiers of men are employed on it. A most substantial stone wall is in progress of erection on both sides of the line, so as to prevent sheep and cattle from straying on it. Over the Girdle there has been cut a small tunnel, through which this water will flow. From this to Beattock, no peculiarity is observable, only that rails have been laid on a greater part of the line. Near Beattock some extensive works are erected for the manufacture of waggons, wheelbarrows, &c. The station for Moffat and the surrounding district will be erected between Beattock, Inn and Craiglands Gate—about a mile and a-half from Moffat; and there can be little doubt, that when the line is opened this length, the visitors to this favourite watering-place will be greatly increased, and be a source of no small income to the railway company, from the passengers arriving there from the north and south. The principal drawback to Moffat is the difficulty of access to its pleasant quarters. In the direction of the Avon, a great number of men are employed in blasting and otherwise forwarding the work of excavation. Along the whole line the immense number of labourers employed is not the least striking feature of the whole; not much less so, the engineers, agents, contractors, clerks, masons, implement-makers; all busy and bustling about. We understand that surveyors are busy at work, under the Caledonian Company, in surveying a branch line from Ecclefechan to Annan. It is confidently stated, that the Caledonian line from Beattock to Carlisle will be ready for opening in July, and certainly this does not seem improbable, from the advanced state of the line in that part of the country. But be that as it may, we wish that every success may attend the line, whether it be opened partially, or all at once. When finished, it will open a rapid communication with the metropolis of England, and that of Scotland, and will, no doubt, be preferred for through traffic to any other.—*Edinburgh Register.*

#### Current Prices of Stocks, Shares, & Metals.

**MINES.**—The mining share market continues in the same depressed state, to which we referred last week. The transactions in shares have been very few, and these have not realised better prices. The few shares which have changed hands are—Trevisky and Barrier, Trelawney, West Wheel Jewel, Ting Tang, Callington, Blencowe, Louisa, Wheal Franco, Kirkcubright, South Trelawney, Treahne, Wheal Concord, Lamheroe, Andrew and Nangiles, and Stray Park. In Bolanos and Real del Monte a great amount of business has been done since the arrival of the packet, and the shares have gone up in the former from the nominal quotation of 4½ to 6½.

**RAILWAYS.**—Great depression has marked the railway share market during the week; and, although there has been an increase in the number of transactions, prices generally have given way, and the shares of the greater number of schemes are lower than they were last week. One principal reason assigned for this is, the number of holders of the middle classes, who, not being able to meet the calls now being made on those lines, which are being constructed, are obliged to force their shares on the market; we refer to the list.

**MEETINGS.**—*Sheffield, Rotherham, and Goole:* first meeting; it was made special to authorise leasing a portion of the line to the Manchester and Leeds Company; agreed to, and arrangements with the latter and the South Yorkshire Company confirmed.—*Warwick and Worcester:* under Dissolution Act, not sufficient shares present, and adjourned to Monday.—*Larne, Belfast, and Ballymena:* under dissolution; agreed to dissolve, and 15s. per share to be returned.—*Taff Vale Railway:* to authorise directors to raise remainder of the capital, 40,000l., at 4 per cent., agreed to.—*Chester and Birkenhead:* half-yearly meeting, which was adjourned for a week.—*Newmarket and Chesterford:* to consider the question of a more direct communication with London; and it was resolved, that the line proposed, from Thetford to Newmarket, was the best calculated to promote the desired object, and the meeting pledged themselves to support it by every means in their power.—*South Eastern and County of Kent:* on Saturday last, at Seven Oaks; to consider the recent conduct of the South Eastern Company; no person attended officially from the latter company; and it was resolved, that the line proposed by the Brighton Company, through Bromley and Seven Oaks to Tonbridge, was most advantageous for the interests of the public and the county in particular.—*Dundee and Arbroath:* a special meeting, to consider a proposal for augmenting the capital by 50,000l., in new shares of 25l. each. The works to be executed are, altering the line to the narrow gauge, with new carriages, waggons, &c., to meet the expected increased traffic on the opening of the Perth and Aberdeen line, and the formation of two branches; agreed to.—*Auburn, Nottingham, and Boston:* an adjourned special meeting, for considering affairs, and appointing officers; the deposits and interest, and 5000l. received of the Midland Company, amounted to 171,381l.; the disbursements had been 24,202l.; leaving a balance of 147,179l., which, with 53,968l. expected from the Grand Union Company, made the present assets 201,147l.; 120,000l. of this was invested in 3½ per Cent. Stock.

**LEEDS, FRIDAY.**—The share market continues to decline, and the prices of all stock have fallen during the week, in most instances to a considerable extent; to-day everything is again worse, excepting new East Lancashire, which, singularly enough, are nearly as high as the old shares; and Liverpool, Ormskirk, and Prestons, which have slightly recovered from the ruinous depression of the last few days; North British, too, are firm, at the reduced quotations. West-Riding Unions, Manchester and Leeds Extensions, Eastern Counties York Extensions, Matlocks, North Stafford, North Westerns, and Leeds and Thirsk, are all lower than yesterday, and present appearance are by no means such as to justify us in expecting an early improvement in prices. **TOTAL, BARRE, & PLANT.**

**THE NEW STOCK AND SHARE EXCHANGE, AND HALL OF COMMERCE.**—We have taken an opportunity of visiting this new building in Old Broad-street, and find it replete with all the convenience necessary to a market of such a description. As to that gigantic effort of individual enterprise (namely, the Hall of Commerce), it is the intention of Mr. Moxhay to raise the annual subscription to about three guineas, which is a mere bagatelle, considering the great advantages offered by it to men of business, both in town and country. Those vociferous folks, yeilded "bulls and bears," having now betaken themselves to the new Exchange, leaves the Hall of Commerce a quiet resort for the reading and mercantile portion of the community.

**THAMES TUNNEL COMPANY.**—The number of passengers who passed through the Tunnel in the week ending Oct. 3, was 16,366; amount of money, £58 3s. 10d.



### PRICES OF MINING SHARES.

BRITISH MINES.				BRITISH MINES—continued.			
Shares.	Company.	Paid.	Price.	Shares.	Company.	Paid.	Price.
1024	Alfred Consols	41	45	844	South Hope	—	—
1025	Andrew W. Mangrove	—	—	1000	South Wh. Hope	21	5
4000	Barristown	44	30	256	South Wh. Ross	112	1
4000	Bellford	31	30	10000	Southern & Western, Irish	1	3
128	Beaura Lead Mine	14	30	256	St. Austell Consols	7	15
320	Birch Tor Tin Mine	10	10	94	St. Ives Consols	—	600
8000	Blacuanov	50	40	1000	Stray Park	43	20
256	Bowditch	3	—	9500	Tamar Consols	3	5
100	Buttack	175	300	6000	Tincroft	7	10
1000	British Iron	10	15	94	Yong Tang	80	14
—	— Ditto ditto, scrip	10	15	128	Toulbury	12	25
128	Budnick Consols	524	45	256	Trebanne	—	19
100	Bwlch Cwmrion	30	—	1024	Trelawney Consols	13	15
1000	Callington	19	21	5000	Trelegh Consols	6	30
256	Caradon Consols	45	25	256	Trenow Consols	—	110
256	Caradon Copper Mine	98	1	90	Trosavan	10	230
256	Caradon Mines	13	24	120	Trothellian	6	30
256	Caradon United	24	12	120	Trothelway and Barrier	61	120
256	Caradon W. Hooper	12	7	128	Trowdale	12	25
1000	Carr Breva	15	100	4000	United Hills	5	25
114	Charlestown	—	200	100	United Mines	200	800
166	Cleveland	9	6	256	Wellington Mines	15	50
1900	Connemartin	54	44	128	West Basset	45	10
1000	Connemara	24	2	256	West Caradon	20	260
128	Comfort	—	40	128	West Cargill	2	12
6000	Con. Trevel Mining Ass.	34	—	512	West Fowey Consols	40	35
128	Corduroy	86	50	256	West Keekewill Consols	—	80
128	Cornwall	1	6	256	West Looe Consols	4	6
1000	Copper Bottom	1	6	256	West Providence	—	10
1024	Cooteen	44	30	200	West Seaton	—	44
240	Cradock Moor	14	25	120	West Trothellian	5	30
128	Cress Brays	120	200	256	West United Hills	24	3
500	Cubert Mine	12	30	256	West Wh. Friendship	74	5
7100	Darwent	84	5	2845	West Wheel Jewel	11	12
1024	Devon & Courtney Con.	4	5	256	West Wh. Marks	—	2
1000	Diurodo	2	6	2560	West Wh. Mitchell	—	2
1000	Dolodale	3	15	256	West Wh. Shepherd	—	2
16000	Durham Canal Consols	45	9	256	West Wh. Smeaton	214	104
256	East Alconway	3	56	256	West Wheel Treasury	144	8
128	East Pool	5	20	240	Wetleylake	3	3
128	East Relistian	—	10	6000	Wicklow Copper	5	162
9000	East Tamar Consols	14	3	1000	Wheel Agar	—	8
—	— East Wheel Albert	1	3	250	Wheel Albert	10	8
94	East Wheel Crofty	—	200	128	Wheel Acland	13	2
256	East Wheel Portune	14	5	256	Wheel Allen	—	4
256	East Wheel Killy	4	3	308	Wheel Anderson	105	11
128	East Wheel Smeaton	—	100	128	Wheel Arden	2	50
123	East Wheel Seton	24	12	128	Wheel Arden	2	50
512	Fowey Consols	—	40	256	Wheel Blencowee	—	15
20000	Gallagher Iron Co.	10	10	256	Wheel Bran Consols	4	3
10000	Gen. Mining Co. for Irel.	1	4	256	Wheel Cleveland	7	60
1000	Geopline	—	—	136	Wheel Clifford	—	190
236	Gonauna	19	160	1024	Wheel Concord	64	5
128	Gover	23	—	256	Wheel Fortescue	44	8
244	Graubier & St. Aubyn	—	31	256	Wheel Frederick	3	20
100	Great Consols	1000	400	256	Wheel Franco	26	30
256	Great Caledwick Moors	64	12	256	Wheel Gwennol	193	26
2560	Great Mitchell Consols	—	34	128	Wheel Harriet	45	48
256	Great Resingra Mine	14	8	2048	Wheel Holwell	14	15
512	Gr. Wh. Rough Torr Con.	1	30	169	Wheel Hope (Zennor)	23	25
100	Grogwinion	5	—	256	Wheel Hope	7	11
1000	Gunnis Lake	14	3	256	Wheel Jane	6	40
1000	Hanson	14	3	256	Wheel Kendall	114	8
1000	Harrowbarrow Old Mine	34	4	256	Wheel Lenia	5	40
1000	Harrowbarrow Consols	2	2	256	Wheel Maria	1	420
1000	Hawknood	—	2	4000	Wheel Methra Consols	4	84
6000	Helginston Down Con.	1	2	256	Wheel Mary Ann	5	25
256	Herdsoft	14	10	1024	Wheel Mary (Calstock)	44	15
10000	Hillbarnan	124	1	256	Wheel Mary Consols	30	25
—	— Hobbs' Hill	4	5	128	Wheel Methra	14	85
1000	Holmbush	18	9	256	Wheel Mary Penvenen	24	8
256	Ivy Tor	14	24	256	Wheel Mary Penzance	1	2
827	Kirkcudbrightshire	24	5	256	Wheel Morris	9	3
128	Lambrooke Wh. Maria	8	4	128	Wheel Pollard	124	12
2048	Lanivet Consols	3	5	128	Wheel Prospect	1	6
1000	Larkholme	—	—	256	Wheel Prynne	34	40
160	Levant	—	90	128	Wheel Reeth	1	60
1000	Lewis	15	3	128	Wheel Ross	40	25
1280	Lincynfellin	6	10	256	Wheel Salisbury	13	—
128	Lindcott	3	3	512	Wheel Sarah	24	6
4000	Marke Valley	10	34	99	Wheel Seton	150	835
5000	Mendip Hills	12	1	1024	Wheel Spearne	14	8
2000	Mining Co. of Ireland	7	12	256	Wheel Sisters	254	20
1000	Mutlow	10	10	128	Wheel St. Cleer	214	15
128	New East Crowndale	3	20	256	Wheel Trevelyan	73	110
128	North Fowey Consols	15	10	256	Wheel Trevelyan	—	10
100	North Pool	11	51	256	Wheel Trowenman	—	10
70	North Rosebar	104	400	128	Wheel Venland	124	10
256	North Treburget	24	4	256	Wheel Victoria	2	2
100	North United	41	20	127	Wheel Virgin	—	50
256	North Wh. Leisure	14	6	1024	Wheel Walter	4	34
128	North Wh. Providence	24	10	256	Wheel Williams	—	20
128	North Wh. Looe	264	10				
15000	Northern Consols	23	2				
600	Old Delabole Slate Co.	25	45				
128	Par Consols	—	900				
256	Penhallow Moor	15	4				

FOREIGN MINES.			
5000	Altan Mining Company	144	34
15000	Asturian Mining Co.	6	3

NS. 10911110

1290	Perran St. George Un.	13	20	12000	Ditto Serip	15	5
128	Perran Wh. Virgin...	94	45	10000	Brazilian Imperial	20	4
512	Plymouth Wh. Yeoland	14	34	12000	Cobre Copper Co.	40	23
2048	Priest Edward	12	14	8500	Colombian Co. regis.	55	
10000	Rhymney Iron	50	25	5000	Ditto Serip		4

9256	Toss Consols.	10	..	3
1000	Rosewall Hill	1	..	34
2500	Silver Valley	3	..	2
2550	Sourton Consols.	24	..	3
2570	South Canadian	10	..	350
2000	South Deane	2	..	—
256	Sth. Friendsh. Wh. Ann	73	..	16
2900	South Harvannah	23	..	25
800	South Towan	10	..	14
256	South Trelawney	124	..	10
128	South Yeoland	162	..	29
123	South Wheel Bassett	..	..	120
124	South Wh. Francis	67	..	140
10000	Coppland-Mining Co.	14	..	3
20000	General Mining Ass'n.	20	..	10
5051	Mexican Company	59	..	5
12000	Mocabaas & Cocacs	25	..	84
29320	[Bl. del Monte, regis.]	261	..	av. 44
	Ditto unregistered	..	..	..
	Ditto Red Debutentes	..	..	19
	Ditto Black ditto	..	..	17
	Ditto Loan Notes	150	..	117
7000	Royal Santiago	10	..	16
2000	Pachuca Mines	3	..	34
11000	St. John del Rey	15	..	54
43174	United Mexican	283	..	32

\* \* We should feel greatly obliged by agents, or others interested, furnishing us with such corrections for our Share List as we may not have received through our usual channels of information. The object being, to present as accurate a list of prices as can be obtained—to procure which, we solicit the aid of correspondents in general.

### LATEST CURRENT PRICES OF METALS.

LONDON, OCTOBER 9, 1845.

	£ s.	£ s. d.		£ s.	£ s. d.
Iron—Bar a. Wales .. . /on	9	0	5	0	0
" do " a. London .. . /on	9	13	0	0	0
Nail rods .. . /on	0	0	10	15	0
Hoop (Stafl.) .. . /on	11	5	11	10	0
" Sheet .. . /on	0	0	13	0	0
Bars .. . /on	11	0	11	10	0
Weish coal-blust ?	0	0	5	5	0
fouudry pig .. . /on	3	11	6	13	0
Sweteh pig, Clyde .. . /on	8	15	10	0	0
Rathfriland .. . /on	8	15	10	0	0
Russian, CCND .. . /on	0	0	—	—	—
" PSI .. . /on	0	0	—	—	—
" Gouffrie .. . /on	0	0	—	—	—
" Archangel .. . /on	0	0	13	10	0
Swedish, /on the spot	0	0	11	10	0
" Steel, fught .. . /on	0	0	16	0	0
" keese .. . /on	13	15	14	0	0
COPPER—Ordin. sheets, lb.	0	0	0	0	11
" Castings .. . lb.	0	0	0	0	11
TIN—Com. blocks g. cwt.	0	0	4	15	0
" Bars .. . lb.	0	0	4	16	0
Refined .. . lb.	0	0	4	18	0
Straita .. . lb.	4	17	4	18	0
Banca .. . lb.	4	10	5	0	0
TIN-PLATES—Ch. IC's box	1	15	1	11	0
" IX .. . lb.	1	15	1	17	0
Coke, IC .. . lb.	1	5	6	16	0
" IX .. . lb.	1	15	1	12	0
LEAD—Sheet £ .. . /on	19	5	19	10	0
Pig, refined .. . lb.	20	15	21	0	0
" common .. . lb.	0	0	18	10	0
" Spanish, in bd.	0	0	18	0	0
" American .. . lb.	0	0	—	—	—
SPELTER—(Coke) .. . lb.	18	15	19	0	0

10/10/1921. 10/10/1921. 10/10/1921.

QUICKSILVER .....	0	0	0	4	0
REFINED METAL .....	0	0	—	—	—
<i>a</i> Discount 2½ per cent.					
<i>b</i> Net cash.					
<i>c</i> Discount 2½ per cent.					
<i>d</i> Ditto.					
<i>e</i> Discount 3 per cent.					
<i>f</i> Ditto 2½ per cent.					
<i>g</i> Ditto 2½ per cent.					
<i>h</i> Net cash.					
<i>i</i> Net cash.					

Discount 1½ per cent.      a Discount 1½ per cent.      \* For home use it is 32½ per ton.

[From our Correspondent.]

IRON.—Welsh and Staffordshire continue firm at quotations, with a good business doing. Swedish and Russian are quiet. Scotch pig-iron is not so buoyant this week, and holders appear anxious to make sales at 71s. 6d. for mixed Nos., and 73s. for No. 1, cash. COPPER, TIN-PLATES, and LEAD are steady at quotations, and in fair demand. TIN, both English and Foreign, is very firm, and stocks are extremely low—very little to be had at present rates.

SPRINKLER.—About 300 tons have been sold this week at 18l. 15s.; the market has thus assumed a rather firmer appearance, and may be quoted at 19l. sellers.

GLASGOW PIG-IRON TRADE.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—Since the date of our last, prices have declined considerably, and a moderate amount of business has been done. To-day the market closed heavily at 68s. to 69s. for No. 3, and 72s. to 73s. for No. 1, free on board—cash in 14 days.

Discount 10 per cent. Discount 14 per cent. For home use it is 32/ per ton.

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GLASGOW, OCT. 7.

DOUGLAS & HILL, Metal Brokers.

MEETINGS OF IRON MASTERS.

WOLVERHAMPTON, OCT. 7.—The usual quarterly meeting of ironmasters in this district took place at the Swan Hotel, for the transaction of business. There was a very large attendance of ironmasters, and many dealers, who evinced great spirit in their purchases. There was a fair amount of business done, but no one declared to any great extent were given the iron trade still continues in a very healthy condition, and from what we have

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order for 10,000 tons of railway iron, and 3600 tons of chairs, was received by a firm in the

**MAGNETIC INFLUENCE OF IRON STEAMERS.**—The variation of the compass on board iron built vessels, from the well-known magnetic influence of the metal, has for a long time occupied the attention of the nautical world and others interested in the subject. By means of a table of correction a very fair degree of exactness has been obtained, but the difficulty has not been overcome so far by that means. Mr. Shepherd, civil engineer, of the Strand, however, has addressed a letter to Lloyd's, mentioning the discovery of an exceedingly simple means of avoiding any magnetic influence at all. Mr. Shepherd has also addressed the Admiralty upon the subject.

**WEST WHEEL ALFRED.**—A valuable copper lode has lately been discovered at Tringee estate, Phillack, about a quarter of a mile S.W. from the Great Wheel Alfred Mine, and nearly half a mile from Alfred Consols; supposed by some to be the same lode which is now so productive on the latter mine. The sett has been taken by Capt. T. Richards, jun., Redruth, and six men are now employed in sinking a shaft on the lode. The mine is named West Wh. Alfred.

X The workings of an old tin mine have lately been discovered in the north-west part of Riviere Towan, facing St. Ives Bay. No records or tradition can give any account of the working of the mine; but it is the general opinion, that tin was found there at the time when the Phenicians traded to Cornwall for tin. The original method of working the mine appears to have been to open it at the surface, and sink to the sea level, and then to have made a conduit with stones, and fill up behind them as they drove south. A sett has been obtained, and men are now employed, who have succeeded in finding some excellent tin. The mine has been named West Wheel Towan.

1. *Journal of the American Medical Association*, 1997; 277: 1033-1038.

Car. Brea .....	100	£3 15 0	Wh. Virgin .....	13	£2 0 6
ditto .....	100	7 8 0	Wh. Providence ..	67	4 2 6
ditto .....	83	4 18 6	ditto .....	60	3 13 0
ditto .....	78	4 16 6	ditto .....	33	10 0 0
ditto .....	73	9 9 6	ditto .....	18	3 6 0
ditto .....	44	3 15 0	ditto .....	13	1 8 6
ditto .....	39	5 6 6	Trenow Consols ..	73	7 14 6
ditto .....	32	2 7 0	ditto .....	28	4 17 6
ditto .....	26	12 6 0	ditto .....	18	2 1 0
ditto .....	21	5 14 0	ditto .....	15	5 2 6
Par Consols .....	100	10 10 0	Wh. Brewer .....	2	1 0 0
ditto .....	88	6 1 0	ditto .....	28	1 13 0
ditto .....	74	10 8 6	ditto .....	27	3 7 0
United Halls .....	91	3 18 6	St. Agnes Consols.	80	2 13 6
ditto .....	66	3 4 0	Wh. Rodney .....	41	3 10 6
ditto .....	64	5 16 0	ditto .....	20	2 4 0
Wh. Spanow .....	33	1 10 0	Wh. Kayle .....	2	9 8 0
Wh. Prosper .....	79	3 16 6	ditto .....	22	4 16 6
ditto .....	67	2 17 0	Wh. Agar .....	29	3 12 0
ditto .....	56	7 8 0	ditto .....	10	9 16 6
Wh. Virgin .....	78	5 7 6	North Wh. Bassett	28	6 4 0
ditto .....	61	5 7 0	Carlisle Consols ..	6	3 13 0
ditto .....	42	6 2 6	Wh. Ann .....	5	8 3 0

07 6025 7 0

Flintow Consols .....	517 10 0	Wm. Hill .....	517 10 0
Average Standard .....	£102 3 0	Average Produce .....	7½
Average Price per ton .....	£5 3 6		
Quantity of Ore .....	2198 tons.	Quantity of Fine Copper, 171 tons 5 cwts.	
Amount of Money .....	£11,451 11 0		
LAST SALE.—Average Standard .....	£104 12 0.	Average Produce .....	7½

E. PURCHASED.

NO SALE on Thursday next, October 15.  
Copper ores for sale on Thursday week, at Andrew's Hotel, Rodrath.—Mines and Par-  
cells.—Devonshire Great Consols, Wheal Maria, and Wheal Fanny 1143—Tresavean 515—  
West Caradon 380—Fowey Consols 243—Wheal Friendship 230—West Wheal Jewel 191  
—Holmbush 97—Bedford United Mines 92—Marke Valley 76—Wheal Buller 47—Wheal  
Gorland 16.—Total, 3035 tons.

*J. Biol. Chem.*

QUARTERLY SALE OF COPPER ORES IN CORNWALL.—To SEPT. 30.  
Copper ores, 37,784 (21 cwt).—Fine copper, 3603 tons 11 cwt.—Amount of money, 196,486l. 16s. 6d.—Average standard, 100l. 0s.—Average produce,  $7\frac{1}{2}$  and 1-16th.—Average price per ton, 5l. 4s.

## 1946

**COAL MARKET, LONDON.**  
 PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.  
 MONDAY.—Adair's Main 15—Carr's Hartley 17—Chester Main 16—Graces Hartley 15  
 —Holywell Main 15 6—New Tanfield 13 3—Old Pontop 13 6—Original Tanfield 13—Ord's  
 Railbottom 14 6—Eskensworth Bolaw 15—Taylor's West Hartley 16—Tansfeld Moor 16—

ON.  
THE MARKET.



**A GENTLEMAN**, who can produce the strongest testimonials of his activity, integrity, and aptitude for general business, is desirous to enter into an **ENGAGEMENT** with a **SOLICITOR** in **LONDON**; he has had considerable experience in a large office in the City, and been accustomed to the management of important proceedings, to bankruptcy, and general business, under the directions of the principal; or, he would be willing to enter into an **ARRANGEMENT** with a **MERCANTILE HOUSE** requiring the assistance of a **CONFIDENTIAL CLERK**.—Address (post-paid), "B. C.," Mining Journal office, 26, Fleet-street, London.

#### NOTICES TO CORRESPONDENTS.

\* Our next Journal will be on the usual **ENLARGED SHEET**, and will contain, besides several articles, letters from correspondents, and miscellaneous intelligence—continuation of the series of papers on the **METALLURGICAL TREATMENT OF METALS**—Professors Playfair and Bunsen, on Economy in the Manufacture of Iron—the Atmospheric Railway System—the Mining Schools of France and Germany—the Glossary of Mining Terms, &c.

**SHARE JOBBING IN TAVISTOCK**.—The communication of "Fair Play" is inadmissible—no facts and arguments, whether in accordance with our own opinions or not, we are always happy to give insertion; but our correspondent has, in his present communication, omitted both—even when treating on a subject, affecting alike the character of mining agents and the mining interest of an important district.

\* **W. R.** (Bath).—The original Southwark-bridge shares (632l. 2s. 6d. av.) are now only worth 34l. The other particulars can be obtained by addressing any respectable broker.

\* **M. W.** (Glasgow).—We should feel obliged for the particulars referred to; every care shall be taken of the MS., which shall be returned with as little delay as possible.

The **MINING JOURNAL** is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained at Twelve of all the news agents, at the Royal Exchange and neighbourhood.

#### MEETINGS DURING THE ENSUING WEEK.

**MONDAY**.....Cambridge and Grand Junction R'way—British Hotel, Westminster, Eleven.

**TUESDAY**.....Wheal Seton Mining Company—on the mine.

**WEDNESDAY**.....Cameron's Coalbrook Steam Coal and Swansea and Loughor Railway—offices, at Eleven for Twelve.

**THURSDAY**.....Royal Mail Steam-Pack Company—London Tavern, at One.

## THE MINING JOURNAL

And Atmospheric Railway Gazette.

LONDON, OCTOBER 10, 1846.

One of our correspondents, in his report of the ironmasters' meeting at Birmingham, on the 8th inst., states—"The usual quarterly meeting of the South Staffordshire ironmasters was held yesterday at the Town-hall, Birmingham. There was an unusually large attendance of ironmasters; and, as was expected, the prices agreed to at the last quarterly meeting were continued. The price of bars was agreed to at 10l., and pigs varied from 5l. to 5l. 10s. Although this is no nominal advance, it will, in fact, amount to one—*as, during the last quarter, a great deal of iron has been sold at less than the agreed price; but now the firmness of the market, and the great demand, encourage the ironmasters to hope such will not be the case during the ensuing quarter.*" Seeing two hundred thousand men are now actually employed in the construction of railways in Great Britain and Ireland, and the expectation of the necessary lines in the latter part of the British dominions being accelerated by the aid of Government, as the most effectual way of giving employment at remunerating wages to the surplus population of that country, the iron trade have only to keep in mind the requirements in iron for each mile of railway upon which labourers are now actually employed, to be convinced a very extensive demand must arise, as these works advance to a point, to require the iron to complete their construction. It has been satisfactorily ascertained, that railways are, in the aggregate, composed of 4 rails of 70 lbs. per yard each, 4 chairs of 20 lbs. do., 8 pins of 8 lbs. do., crossings 14 lbs. do.—together 112 lbs. each rail, or 4 cwts. per yard,—being for the 4 rails, &c., equal to 352 tons per mile. To these is to be added the stations covered with iron roofings, turn tables, and extra rails at stations, which, with the waggons, engines, and tenders, the iron girders used for bridges, and culvers from draining, tanks, &c. &c., it will be found that a mile of railway will require at or near 700 tons of malleable and cast iron, equal to about 820 tons of pig iron.

In our columns of to-day will be found a tabular statement, showing the quantities and value of ores sold during the past quarter ending the 30th of September, by which it will be seen that the Devonshire Great Consols still takes the lead, although her produce has fallen off from the returns of the preceding three months, both as to quantity and quality. We find the sales, for the three months ending June, 4809 tons, realising 31,864l. 19s. 6d.—or nearly one-sixth of the value of the whole of the ores sold in the country, and giving an average price of 6l. 12s. 6d. per ton; whereas, in the past three months, the sales have amounted only to 3997 tons—being a decrease of 812 tons, or about one-sixth; the amount of sales being 22,254l. 17s., or a diminution of 9610l. 2s. 6d.—being nearly one-third in the value of the ores; while, as we have already observed, the reduction in the quantity of ore is only one-sixth—thus clearly proving that not only has the mine, in common with others, suffered from the effects of the reduced standard, but also from a depreciation in the quality of the ores. The average price obtained for the sales of ore in the past quarter, it will be seen, is only 5l. 11s. 3d.—or a reduction of 1l. 1s. 3d. per ton—being not more than one-half the rate at which the ores sold, on the mine being worked in the first instance, some 18 months or two years back. The mine, nevertheless, is rich enough; and, when it is considered that not more than some 700l. or 800l. was expended in bringing her into a productive state—while the profits realised in the past two years from the working of the mine may be fairly set down at 140,000l., and her present value taken at 400,000l. to 500,000l.—we think it requires little to be added, to prove that mining enterprise is of an encouraging nature, although we are fully sensible that heavy losses have, in many instances, been sustained, arising in a great measure from want of care, and that scrupulous attention on the part of practical men, which is ever indispensable, but which we find too frequently interfered with, or prevented by theorists. As regards the other mines which form a portion of the list, it will be seen, that the Consolidated Mines, the United, North Roskear, Carn Brea, Par Consols, Fowey Consols, Wheal Seton, and West Caradon, eight in number, produced 14,645 tons, yielding 81,029l. 12s.—or, on an average, 5l. 10s. 8d. per ton; while the returns from the next eight mines on the list, including Tincroft, Wheal Prosper and Wheal Friendship, Tresavean, South Wheal Basset, Treleigh Consols, United Hills, South Caradon, and East Wheal Crofty, give 6948 tons, or 31,444l. 10s. 6d.—being an average of 4l. 10s. 6d. per ton. The other mines (77 in number), show a total of 12,194 tons, and 61,757l. 16s. 6d. in amount, or 5l. 1s. 3d. per ton—thus making a general amount, as shown in the table referred to, of 37,784 tons, amounting to 196,486l. 16s., or at an average rate of 5l. 4s. per ton.

With respect to the produce of the mines of Ireland, it will be seen that, during the quarter, there has been sold 6325 tons, producing 33,558l., or an average of 5l. 6s. 2d. per ton—while, in the previous quarter, the quantity was 6129 tons, producing 37,802l. 5s., averaging 6l. 3s. 4d. per ton—showing that, although there has, in the quarter just passed, been an increase in the quantity of 196 tons, there has been a decrease in the amount of 4244l. 5s.—or a difference on the average against the adventurers of 17s. 3d. per ton.

The alleged valuable discovery of gold, in one of the mines of South Australia, has very naturally called the attention of the colonists to the important question—What power has the Crown over such produce? In last week's **MINING JOURNAL**, we made a few observations on the subject, concluding with an extract from **CURRY'S Blackstone**, on the claim of the Crown to the produce of mines of gold and silver. We think there cannot be two opinions as to the legal claim of the Crown to Royal mines; nor does the peculiar manner in which the lands of South Australia were absolutely sold in fee

simple, confer any additional right on the colonist, over what he would have enjoyed in the possession of land in England, with a gold deposit thereon; but, while we think we must acknowledge such right; we very much question the policy of enforcing it in a colony which has made such exertions to overcome the difficulties inseparable from colonisation, and to raise themselves to a level with their fellow subjects in the mother country. For years they had serious up-hill work—entirely devoted to pastoral pursuits and agriculture; their flocks and herds increased upon their hands, without sufficient demand to cause an influx of other species of wealth; and the consequence was that, at one period, the most serious fears were entertained for the very existence of the colony—insolvency and ruin approaching their very doors. The mineral discoveries which were subsequently made—carried out with industry and spirit—gave an entire new turn to their affairs; and with their productive mines of copper and lead, the wealth of the colony has rapidly increased. Should, however, the discovery of gold induce the Government to put in its claim, and thus place restrictions on the free enterprise of the colonists, it is highly probable that it will prove a serious bar to the rising welfare of the colony, retard its now rapidly-increasing trade, injure the shipping interest, and, in fact, spread the most injurious effects throughout the land, which will be more or less felt by every class in Australasia. We trust, however, when all the claims which this interesting spot has, upon the assistance of a paternal Government, are fully considered, we shall hear no more of either claiming the gold returns, nor the enforcement of royalties on their copper or other ores.

It will be seen, by our advertising columns, that the first general meeting of Cameron's Coalbrook Steam Coal and Swansea and Loughor Railway Company takes place on the 14th instant, under the provision of the Company's Railway Act. Among the crowd of railway bills, which have been passed last session, none deserves more special notice than this one, which has recently received the sanction of Parliament; and, as we presume the construction of the line, and the advantages calculated upon, will form subject matter of report at the meeting, it may be well to submit such observations as occur to us, arising not only from a knowledge of the property, but having well considered the several points bearing upon it in a mercantile point of view, and availed ourselves of much useful information, to which we have had access—as also attended experiments made, the results of which have, however, already appeared in our columns. It is now some six months since a trial took place—or, rather, we might designate it, an excursion—with the view of testing the coal as to its capacity and absence of smoke,—for, although the result was highly satisfactory, yet by no means could the trial be said to be perfect, or carried out in a manner so as to establish the merits or advantages of the coal over that generally used in steam-vessels. We gave at the time the result of the observations then made; and, on the occasion, adverted to the advantages attendant on the use of this peculiar description of coal—the absence of smoke, the economy of stowage, and the properties moreover possessed by the fuel being composed of an increased quantity of carbon,—and hence its heating power: thus reducing the consumption, and adding to those advantages for the purpose of steam, which may be well understood, as reducing the quantity consumed, as also the bulk in the stowage. It would appear that, of this coal, the company have secured a sett, or grant—yielding on an aggregate of the three veins 16,000 tons per acre, or in the whole 13,000,000 tons—in addition to which, 400 acres of bituminous coal have been secured, yielding 14,520 tons per acre, or a total of 5,808,000 tons. With respect to the economy in its use, we will assume for a moment that only 20 per cent. be saved—which, however, we feel assured is far below the mark: in this alone an advantage is secured as to the cost of the article, while the saving in stowage is not the least consideration, whether we consider the beneficial advantage which might be reaped by freights, or the less tonnage to which the vessel is subjected as dead weight. There can be no question, but the absence of smoke is not only an advantage,—which, if report speaks truly, will be forced on the community at large, and thus render necessary, either an alteration in the furnaces or stacks in manufactories, or the adoption of another description of fuel more pure and evanescent than that now employed—but that, by an application of this description of fuel with a grate properly constructed, a saving is effected in the first cost. Much must necessarily depend upon the price of the article; but as the company must see that, to secure a sale, they must be satisfied with a reasonable profit,—and when, moreover, it is considered that, with an increased demand, there is a reduction of the cost, whether as attendant on the employment of agents, or the expense of working engines, while a comparatively larger return is made on the capital employed—we can well imagine that the company will render their coal at a moderate price—indeed, if we are to give credence to the statements emanating from the directors, they can well afford to do so; and, we feel assured, would not only benefit the public, but themselves and the shareholders, whose interests they represent.

As we believe no question can arise with respect to the advantages which must accrue from the active prosecution of the collieries of the company, the next question which presents itself is—what are the prospects held out by the railway, projected from the collieries to Swansea? To render this manifest we have, at some trouble, endeavoured to collect fair data on which an estimate may be made—the result of which may be given in a few words. The present output may be taken at 100 tons per diem, or 600 per week; and, on completion of certain works of extension now in hand, the collieries will yield an increase of 2000 tons per week—making, together with the present 600 tons per week, an annual vend of 135,200 tons. Taking the distance by railway from the colliery to Swansea—the shipping port—at nine miles, and charging 1d. per ton per mile on the coal, for cost of transit, on 135,200 tons, will give an annual cost of 5070l.; the same quantity, carried at the present rate of say, 2s. 8d. per ton for the whole distance, would cost the company 18,026l. 13s. 4d.: the difference, 12,956l. 13s. 4d., will thus be the profit to the company on construction of the railway alone—the total expense of which will be under 20,000l.

We have deemed it right, at a moment when railway projects excite so much attention, and where apprehension may exist as to a remunerative return being obtained on the outlay, thus to enter into some few statistics as regards this company, as the advantages to be derived from the construction of the railway are so manifest and intimately associated, and dependent on the extension of the working of the coal tract possessed by the company.

The progress making in the atmospheric railway tube affords a curious conviction of the development of human ingenuity, from the wide spread knowledge of every branch of science now afforded to every class of the community. There is, we believe, no doubt entertained but that atmospheric railways are only in their infancy, and will ere long progress, if not ultimately succeed: there existing at the present moment, as appears to us, alone the difficulty of the valve—the impossibility we had nearly said, but, certainly, the impracticability, so far as has been hitherto demonstrated, of keeping it airtight—the great obstacle which presents itself; as, in other respects, the principle may be said to have been established, and proved successful. We this week give two descriptions of plans recently patented—one of which, as will be seen, proposes to get rid of any valve, or opening, through which leakage, and consequent loss of power, could accrue, working the machinery or propulsive power by means of a piston, traversing a close tube. Whether the mode proposed may effect the desired end, or otherwise, yet remains to be seen; but that

we shall arrive at something like a perfect system ere long, no doubt can be entertained. The other is an entirely novel plan, in which short lengths of tube, of large calibre and great power, are employed, which propels the carriages over the intervening spaces by the momentum obtained. There are prejudices to overcome in all these new plans, as well as in **GREENHOW'S** geometrical railway, or any other novel project, which we can well understand to arise with interested parties; but every day affords additional proof of the advance of science, and the removal of that bigotry which has been too much the bane of enterprise, and too oft destroyed the prospects of many a useful artisan.

A rather curious coincidence appears respecting the plan for a close tube, represented in our present Number, worked by a flexible air-tight covering to the longitudinal opening—it having been patented by Mr. **WHEELER**, and suggested by two of our usual correspondents, unknown to each other, until a notice of each appeared in the **MINING JOURNAL**—viz.: Mr. **DE LA HAYE**, of Liverpool, and Mr. **A. T. J. MARTIN**, of Penzance. In a communication from the former, since a description appeared in the *Mechanics' Magazine*, he observes—"I do not think **WHEELER'S** plan will answer; as the piston could easily outstrip the train, if a slight accident caused the front carriage to be raised a few inches—in such case, the under wheel would escape from the upper; it was principally to obviate this inconvenience that I proposed a long break, sliding in a groove. The opening of the tube must be at least 4 inches wide, to allow a wheel of sufficient strength to propel the train." It is certainly evident some means must be adopted to keep the carriage down, or the tendency of the under wheel would certainly be to raise it, and slip off in front; the addition of some such appliances would not invalidate the patent. Messrs. **CLARKE** and **VARLEY**, whose resilient atmospheric railway tube we have on several occasions noticed, are still persevering in their efforts to render as perfect as possible all the details, to secure economy in the first construction, absence of leakage, the smallest possible amount of friction, the admission of the necessary atmospheric pressure behind the piston, the consequent availability of the full tractive power given by any amount of exhaustion, and speed, certainty, and safety, in the transit. Preparations are now making for the laying 150 yards of tube on the Blackwall line; and we hope, at an early period, to be able to lay before our readers the effects produced. We have, we believe, given every one of the inventions for atmospheric propulsion a fair description, and thus brought them fully and impartially before the public—leaving them to work their way in the engineering world according to their merits.

Since our last, the *Kingston* has arrived from South Australia bringing us files of newspapers—some extracts from which will be found in the Journal: we also learn, that the *Malcolm* was freighted with 350 tons of ore, the *Regia* 220 tons, and the *Cleveland* 210 tons, all direct to Swansea. The *Mary White* had arrived at Adelaide, from Sydney, and would take between 400 and 500 tons of Kapunda copper ore, direct to Swansea; and the *Phoebe*, which had just arrived from England with emigrants, was to be dispatched in three weeks, with 600 tons of Burra Burra ore. This latter mine had delivered on the wharf ready to be shipped, 1717 tons of ore, within the space of five months, from the time of commencing working—besides from 400 to 500 tons of inferior ore at the mines, which will be smelted, the furnaces being nearly completed: the Burra Burra Mine sends 100 tons a week to the port, and the Kapunda 50 tons a week. Shares in the Burra Burra are freely bought at 33l. the 5l. scrip. The ore by the *Kingston* is from the South Australian Company's Mine at Mount Barker. New mineral localities were constantly being discovered in the colony.

**SOUTH AUSTRALIAN MINING ASSOCIATION**.—In the *Mining Journal* of the 19th ult., we gave some very full particulars of the progress of mining in South Australia, more particularly as related to the Burra Burra and Kapunda Copper Mines: since which date we have been favoured with some further information by Mr. F. J. Beck, of Tokenhouse-yard, the representative in England of the Australian Mining Association. From it, we learn that the annual meeting of the association was held on the 15th April last, when the first annual report was laid before the shareholders; it congratulated the scripholders on the cheering state of their prospects, which far exceeded their most sanguine expectations: the quantity of copper raised from the Burra Burra Mines, from the day of opening, Sept. 29, 1845, to the 28th March last, was 2704 tons—of which 1197 tons had been exported, 723 tons had been reserved for smelting, and the remainder was on hand at the port; the average weekly raising was 60½ tons, the largest quantity raised in one week was 128½ tons, and a considerable increase in the last three months had taken place, as compared with the previous three months. The directors were making every possible exertion for the completion of the smelting-house, which had been delayed for want of bricks, but they expected to commence operations in a very short time. The township of Koorunga was rapidly increasing, and it was contemplated to erect a school-house, which would answer also for a place of worship. The business of the mines had become of that important character, that the captain could not perform the whole of the required duties, and Samuel Stocks, jun., Esq., had been appointed a resident director to superintend the works. From the statement of accounts, it appeared that the wages and payments on account of working the Burra Burra Mine were 4495l. 11s. 11d.; cartage of ore, 5303l. 17s. 8d.; and there had been invested in land and improvements, 11,845l. 7s. 10d. The amount received for the 1197 tons of ore shipped to England was 10,024l., or an average of nearly 9l. per ton. Upon the whole, the prospects of these mines were most encouraging—and as they were opened in depth, they gave every sign of gradual improvement.

**TESTIMONIAL TO DR. CLANNY, THE ORIGINATOR OF THE IDEA OF A SAFETY LAMP FOR COAL MINERS**.—We last week noticed, at some length, the efforts now making to raise a subscription, for the object of presenting Dr. Clanny with a suitable testimonial, as a reward for his long and more than gratuitous services in the cause of humanity—having gone on devising and carrying out suggestions of improvements for the last 30 years, at great pecuniary cost. In addition to the historical data we then adduced, in corroboration of our assertion, that Clanny first started the idea of a safety lamp, we are now enabled to add, that his original safety lamp was employed in 100 acres of inflammable air, before any other safety lamp was thought of by Davy, Stephenson, and others; and that his steam safety lamp was the first self-feeding safety lamp ever put to use.

**LEICESTER AND BEDFORD RAILWAY**.—The company for the construction of this railway, which was formed about May, 1845, have now received the sanction of the scripholders to a dissolution of the company, with a view to its reconstruction under arrangements with the Great Northern Company: it has been re-registered under the title of the Leicester and Bedford Company (1846), all necessary legal forms having been adopted, and the company are now prepared to go to Parliament during the next session. The original destination of the line was from Leicester, by Market Harborough, Rothwell Kettering, through Bedford to Hitchin—thus supplying the wants of a rich and thickly-populated district, passing through the finest grazing land in the kingdom, and taking up the traffic from the north of England, Manchester, Sheffield, Leeds, and Nottingham, to London. The line is the nearest to the metropolis of any of the number of competing lines as yet projected. The terms on which the new arrangements are, we understand—that the number of shares be 150,000, of 10l.; scripholders in the original to have a 10l. share for every 20l. share of the former, on paying a deposit of 6s., when he will be credited 20s.—8s. per share being a credit out of the arrangements with the Great Northern Company; the latter takes 75,000 shares, paying 20s. deposit, and signing the deed for 750,000l. Scripholders not willing to avail themselves of these arrangements, may receive 6s. per share, being the proportion remaining after payment of the expenses, and will be considered so to have elected, unless the claim for shares is made on or before the 3d of October. The line we always thought held out hopes of a profitable result, had it passed the fiery ordeal of Parliament; and it certainly appears that, taking advantage of a connection with the Great Northern Company, at Hitchin, places it in a far more advantageous position than before, and with a better prospect of obtaining its bill.



## PROGRESS OF FRENCH MINING INDUSTRY.

(FROM OUR PARIS CORRESPONDENT.)

On the 28th of the present month, the Minister of Marine will receive contracts for the supply of 3,000,000 kilogrammes of English coal for the Isle of Bourbon, Sainte-Maria de Madagascar, and Mazotte. Particulars as to the terms of the contracts may be obtained in Paris, at Havre, and at the French Consuls, in Newcastle-upon-Tyne. A question has arisen, whether this vast quantity of coal is to be conveyed in French or English vessels. Last year, I believe the French Government insisted upon the employment of French vessels, whereby the profits of the English contractors were greatly lessened; but this, I apprehend, amounted to a violation of the navigation treaties between England and France. The English Government should take up the matter; and if it were to do so, there is no doubt it would be able to induce the French authorities to abandon the determination which they are represented to entertain, of allowing none but French vessels to be employed. A little while ago, notices were issued of contracts for the supply of a vast quantity of American tobacco, and it was laid down as a fixed condition that the tobacco should be brought to France in French vessels; but, on the remonstrances of the American Minister, this condition was given up, and, in consequence thereof, all the freight will fall to the American shipowners. Now, if I mistake not, the navigation treaties between England and France, are the same as those between France and the United States; and, if so, the French Government has no more right to impose upon English coal miners the necessity of employing, at a vast outlay, French vessels, than it has to compel American tobacco sellers to employ them. I call your particular attention to this matter, for it is of great importance to the coal interest.

The *Moniteur* of this morning contains a notice that, on the 30th October next, the Post-Office will receive contracts for the supply of 39,600,000 kilogrammes of coal, necessary for the packet service in 1847. Conditions of the contracts may be obtained at the French Consulate, in London, at Brussels, at the Packet-Boat Office, at Calais, &c. I have not time at this moment to inquire, whether in this case the employment of French vessels is insisted upon; if it be, I would strongly advise such of your readers as may propose to accept the contracts, to bring the subject forthwith under the attention of Lord Palmerston. I say again that my impression is, that such a condition is illegal; and that, if remonstrated against by the British Government, would most probably be abandoned. If it be maintained, it will cause a grievous loss to the British coalowners, and also to the British shipowners; perhaps, even it will prevent the former from contending at all against the competition of the Belgians, and the coal people of the Loire.

In 1833, France possessed only 75 steam-vessels; the number now is 238; in 1840, the steam-vessels were of 143,706 horse power, which is equal to the force of 1,006,942 men; in 1844, they were of 188,847 horse power, equal to 1,821,929 men.

It is stated that extraordinary activity prevails in the cannon foundries of the Government; and it is believed from this, that the intention is to arm the fortifications of Paris, in defiance of the law.

The iron monopoly in this country has naturally had the effect of sending up the shares in the iron establishments to an enormous price. The present price of the Decazeville shares is 3500 fr., which is seven times more than that at which they were issued. Other establishments have been yet more profitable. That of Terre Noire, near St. Etienne, for example, pays dividends equal to 75 or 76 per cent. on its original capital. Its shares are scarcely ever to be found in the market; but when, by chance, any do appear, there is great competition to obtain them—and it is by no means unusual to see half shares sold at from 42,000 to 45,000 fr.

The furnaces and establishments of Chatillon-sur-Indre are advertised for sale on the 5th November.

The shipping interest, as has been before explained, suffers more cruelly, perhaps, than any other from the scandalous monopoly on iron. The construction of merchant vessels in iron is perfectly impossible at the present price of that article. A ship built of French iron would cost at least three times as much as one built of English iron. For articles of the commonest necessity the price is double, oftentimes treble and quadruple, of the same articles in England; a cable, for example, which can be had in London for 600 fr. or 700 fr., costs at the very least in France 1500 fr.

The French Government, which for some months has been pushing on the fabrication of steam-vessels in iron for the national navy, has, it is said, determined on building no more, in consequence of the experiments made in England having demonstrated that iron cannot resist bullets so well as wood.

The Free Trade Association held a second public meeting last week. Almost all the speakers confined their attacks to the iron monopoly, dealing them some rude blows. It is the giant monopoly in this country—the very key-stone of the monopolist arch; and hence free trade partisans do well to belabour it.

The total number of persons employed in the iron and linen manufactures of France do not exceed 500,000. The population engaged in agriculture is, at least, 30,000,000. For the benefit of the 500,000, the 30,000,000 agriculturists, with the 4,500,000 engaged in other pursuits, are heavily taxed, without any benefit whatever to the public treasury.

St. Dizier letters, of the 1st October, mention that one establishment had sold its white cast-iron at 196 fr. the 100 kilogrammes, taken at the furnaces. Cast-iron, for castings, was much demanded, and details are given of the prices of different articles; but it is not worth while repeating them.

**AMERICAN IRON TRADE.**—The petulant outcries of the ironmasters at Pennsylvania against the effects of the new tariff on their interests continue violent as ever; but from causing apprehension, they now merely move the mirth of the community. It has been so often thoroughly demonstrated, that the end of their clamour is not legitimate protection, but sectional and individual aggrandisement, that everybody who pays attention to the subject is inclined to ridicule the vehemence of their deploring. It has been ascertained that the highest estimate made by any in the trade for producing a ton of anthracite pig-iron, is \$15, a little more than 3l., while many make it for much less; this has been sold for \$25 to \$30—leaving a clear profit, after deducting freight, &c., of \$10 or \$12 per ton; so that, if with a protective duty of 30 per cent., they cannot compete with foreign manufacturers, the public opinion is, that the support of the iron trade would be a public burden. It is certain, that many of the iron-works in the manufacturing districts have ceased altogether, others in course of erection have been abandoned, and the majority of the whole in work have diminished their production. But it must be borne in mind, that many of the works have been carried on by mere speculators with inadequate capital, and the sudden curtailment of their immense profits has caused their cessation. The decrease of manufactured iron by other companies, although held forth as an example of the bad effects of the new tariff by the enemies of the measure, is chiefly the result of the intense heat of the weather, which has made it utterly impossible for men to work one-half of the time. In short, those most conversant with the trade, feel no apprehension that the American production of iron will fall off in consequence of the loss of its extreme protection.—*Correspondent of Birmingham Journal.*

**LOCOMOTIVE ENGINES.**—Mr. R. Nisbet, of Lambden, has patented some improvements in locomotive engines and railways, which consist in making such additions to engines and railways, as to enable a train to ascend, at a very slightly diminished speed, almost any incline. A toothed circle or ring is bolted, or otherwise secured, to the rim of each driving wheel of the locomotive engine—or, if necessary, a circle of teeth may be attached to each side—the diameter of which, at the pitch line, must of course be the same as the diameter of the sole or bearing periphery of the wheel. Racks corresponding with these toothed rings are laid down at the inclined portions of the railway, and may either be secured to seats formed in the chairs for their reception, or bedded on separate longitudinal sleepers laid for that purpose; they are continued beyond where the gradient commences, to the distance equal to the length of the longest train likely to travel thereon; at the beginning, or where the toothed rings first take into these tracks, the pitch line is placed below the level of the rails, and the teeth at the same point are bevelled off on one side to a sharp edge. From this it gradually rises until it attains a proper level, and the teeth at the same time are bevelled less in proportion as they rise, until they assume a proper shape. This arrangement will facilitate the junction of the rings with the racks, and prevent any possibility of the teeth of the one coming opposite the teeth of the other. On railways intersected with many crossings, he prefers making use of only one circle of teeth to each wheel; this he places on the inside, as where the flange passes there will be room for it; also, by cutting a portion of the rail away, through which it may pass freely. By another arrangement, the toothed rings are secured to the driving wheels by means of four short links, on which they swing, placed at equal distances on the circumference, and will admit of their being raised two or three inches, so as to clear the rails in crossing, or any other obstructions likely to be met with. The toothed rings, in this case, are acted on by a lever, over which the driver has control, who raises or depresses them accordingly. He states that he is aware that toothed wheels and racks have before been applied to railways, throughout their entire length, and which method of propulsion he does not claim; but he claims the fixing of toothed circles or rings to the driving wheels of locomotive engines, for ascending inclines, and also for retarding in its descent.

## THE IRON TRADE OF SCOTLAND.

There is considerable difference of opinion, as to the average weekly production of any given number of furnaces; but we think that, at a very moderate calculation, it cannot be named less than 110 tons per week from each furnace at all the works, on an average, throughout the whole year. We may here observe that, at the present time, two of the furnaces at the Govan Iron-Works are producing 200 tons each; the production of some of the furnaces at Langloan, Monkland, and Garscube, is also very large, compared with other works.

## BLAST-FURNACES IN SCOTLAND AT DIFFERENT PERIODS SINCE 1805.

Years.	Total.	In Blast.	Out of Blast.
1805.....	28	18	10
December, 1825.....	94	67	27
May „ 1843.....	103	70	33
December „ 1844.....	103	84	19
October „ 1845.....	128	91	37
October „ 1846.....	131	101	30
June „ 1846.....	133	94	39
September „ with Bunaw			

## BLAST-FURNACES IN SCOTLAND—SEPTEMBER, 1846.

Name of Works.	County.	In Blast.	Out.	Repairing.	Building.	Total.
Gartsherrie.....	Lanark	14	2	2	0	16
Govan.....	„	3	0	1	0	4
Clyde.....	„	3	0	1	0	4
Summerlee.....	„	3	0	1	0	4
Langloan.....	„	6	0	0	0	6
Dumfries.....	„	8	0	1	0	9
Carmichael.....	„	2	1	2	0	5
Caldar.....	„	5	3	0	0	8
Monkland.....	„	7	0	2	0	9
Omoo.....	„	3	1	0	0	4
Coltness.....	„	5	0	1	0	6
Shotts.....	„	3	0	1	0	4
Castellhill.....	„	2	0	0	1	3
Glenarnock.....	Ayr	4	1	0	2	7
North Ruskay.....	„	2	0	0	4	6
Luga.....	„	2	0	0	2	4
Muirkirk.....	„	2	0	0	0	2
Edginton.....	„	0	3	0	0	3
Garscube.....	Dumfries	2	0	0	0	2
Carroll.....	Stirling	3	2	0	0	5
Kinnell.....	Perth	4	0	0	0	4
Devon.....	Fife	1	1	0	0	2
Forth.....	„	4	0	0	1	5
Total.....		93	16	13	10	132

The Bunaw furnace, in Argyshire, is omitted from the above list, as it only produces from 25 to 30 tons of charcoal pig-iron weekly—the whole of which is sent to Wales for manufacturing into tin-plates, &c.; it is uncertain whether it be in blast just now or not.

## SCOTLAND—SEPTEMBER, 1846.

New furnaces are proposed to be erected at the following places during the course of 1847, provided the supply of coal and ironstone turns out of good quality and sufficiently abundant:—

Portland, near Kilmarnock, Argyshire.....	4
Dalmellington, near Ayr.....	4
Blair (additional).....	2
Edginton (ditto).....	3
Clyde (ditto) Lanarkshire.....	1
Coltness (ditto).....	2
Forth (ditto) Fife.....	4

## SALES OF ORES FROM THE COPPER MINES OF CORNWALL, FOR THE QUARTER ENDING SEPT. 30, 1846.

Mines.	No. Tonnages.	Tons.	Amount.
Devonshire Great Consols.....	3	3997	£22254 17 0
Consolidated Mines.....	4	3633	17668 5 0
United Mines.....	3	2492	11741 16 0
North Ruskay.....	2	1812	10415 13 0
Carn Breas.....	3	1847	9691 18 0
Par Consols.....	6	1470	8484 0 0
Fowey Consols.....	6	1801	8290 0 0
Wheal Seton.....	3	1145	7632 7 0
West Caradon.....	3	1046	7075 11 0
Tincroft.....	3	1280	5515 8 0
Wheal Prosper and Friendship.....	4	890	5096 10 0
Tresavan.....	3	1460	7490 0 0
South Wheal Basset.....	3	715	3516 14 0
Trevelick.....	3	611	3332 15 0
United Hills.....	3	864	3295 8 0
South Caradon.....	2	600	3249 2 0
East Wh. Crofty, Duddnase, & Longol.....	1	522	2953 11 0
Stray Park and Camborne Vein.....	1	553	2786 12 0
Perran St. George, Bolena, & Wh. Lels.....	2	596	2745 14 0
Levant.....	2	439	2530 13 0
South Wheal Francis.....	2	288	2910 14 0
Pollicott.....	2	648	2707 11 0
South Ruskay and Wh. Chance.....	2	439	2352 10 0
Graham and St. Aubyn.....	2	458	2304 15 0
East Wheal Crofty.....	2	344	2015 13 0
Trenow Consols.....	3	387	1986 4 0
Holmbush.....	3	318	1874 10 0
South Towan and Wheal Lydia.....	2	429	1707 1 0
Creeggraw.....	2	308	1701 16 0
Wheal Friendship.....	1	412	1654 0 0
Bedford United.....	3	273	1620 14 0
Lanivet Consols.....	2	293	1505 1 0
Wheal Ellen.....	2	248	1413 0 0
Trethellan.....	3	403	1318 12 0
Wheal Harriet.....	2	309	1272 13 0
Barrier.....	2	240	1203 5 0
Wheal Virgin.....	1	208	1178 4 0
Wheal Jewel.....	2	243	1045 13 0
West Wheal Treasur.....	2	160	1006 8 0
Tretoll.....	3	152	642 9 0
Wheal Union.....	1	8	79 0 0
Wheal Brook.....	2	13	132 14 0
Relistian.....	1	5	25 2 0
Wheal Plenty.....	1	4	25 4 0
Treviseky.....	1	139	964 9 0
Wheal Maiden.....	2	117	504 8 0
Hawkmoor.....	1	13	64 0 0
St. Agnes Consols.....	2	233	518 8 0
Wheal Sisters.....	2	149	694 3 0
Andrew and Nangiles.....	2	123	643 15 0
Wheal Anna.....	1	48	90 2 0
Williams's East Downs.....	2	48	228 0 0
Wheal Mad.....	1	5	17 0 0
Wheal Rock.....	1	2	2 0 0
Pembroke.....	1	1	8 15 0
Condurow.....	1	150	592 17 0
Godolphin.....	1	117	550 2 0
Wheal Vyvyan.....	1	79	295 1 0
East Pool.....	1	77	411 19 0
Hanson Mines.....	1	35	176 15 0
Wheal Comfort.....	2	103	404 16 0
West Grahams.....	1	13	7 7 0
West Wheal Jewel.....	1	216	738 15 0
Providence Mines.....	1	42	126 11 0
Wheal St. Andrew.....	1	37	28 13 0
Carn Perran.....	2	60	216 11 0
Wheal Trenwith.....	1	28	150 10 0
North Wheal Basset.....	3	89	363 7 0
Wheal Bulver.....	2	114	381 11 0
Hallenbeage.....	2	279	892 11 0
Lewis Mines.....	1	67	311 11 0
West Fowey Consols.....	1	71	377 15 0
Botallack.....	1	166	856 9 0
Wheal Providence.....	1	50	238 15 0
Alfred Consols.....	1	26	95 13 0
Bastian's Ore.....	1	30	66 0 0
Wellington.....	1	30	150 0 0
Martin's ore.....	1	14	32 4 0
Tamar.....	1	10	76 0 0
Marke Valley.....	1	111	269 3 0
Wheal Gorland.....	1	26	96 0 0
North Downs.....	1	59	284 9 0
West Trevelick.....	1	31	89 18 0
Penstrathall.....	1	16	148 19 0
Brewer.....	1	83	218 10 0
Wheal Rodney.....	3	134	695 7 0
Wheal Kayle.....	1	40	291 2 0
Wheal Caroline.....	1	17	18 4 0
Redruth Consols.....	1	20	132 0 0
West Wheal Maria.....	1	12	43 16 0
Wheal Weath.....	2	6	31 2 0
Total.....		Tons 37,784	£195,486 16 0

**THE COPPERING SHIPS.**—It is said that there are at the present time so many vessels destined for the Mediterranean and elsewhere being coppered at the port of Sunderland, that a difficulty is experienced in obtaining the requisite supply of copper from the manufacturer as quickly as is required to supply the demand.—*Newcastle Guardian.*

## THE LONDON STOCK EXCHANGE, AND THE NEW STOCK AND SHARE EXCHANGE.

The interest, which persons of most trades and professions have, more or less, in railway shares and stocks, from the late numerous formations of companies, has caused the public attention to be drawn to the present mode of conducting business in the money market. Where formerly men in trade had, perhaps, no more than a dozen transactions in the course of their lives, they are now, from necessity, forced to have them from day to day, which has caused many to investigate more closely the means through which these transactions have been conducted. The mode of doing business at the Stock Exchange has been discovered to be the cause of very considerable losses to the public, for the enrichment of a chosen few of monopolists.

It will be needless to enter into arithmetical calculations, which all may easily prove; but the public may rely on this statement, that they seldom deal on the Stock Exchange, unless to a disadvantage of 10 per cent. on the capital which their broker negotiates—in many instances it amounts to 25 per cent., and in others to a still greater sum. In proof of this, they are referred to the current stock list, where it is no uncommon thing in the new companies to have a price of 10s. per share difference, or margin, between the buying and selling price, on shares which are only worth that, and shares have had buyers at 2s. 6d., and sellers at 12s. 6d.—thus, in a bargain, say, A buys 50 shares, at 2s. 6d., 61.5s.; commission, 2l. 10s.—cash, 33l. 15s. B sells 50 shares at 2s. 6s. 81.5s.; commission, 2l. 10s.: amount realised, 3l. 15s.: profit to jobber, 80l.—83l. 15s. By this, A has to pay 33l. 15s., and B, on the other hand, realises 81.5s. Nothing can appear more absurd than this, but it is real practice, and, in truth, most ruinous in consequences, leaving no room for wonder at the extraordinary fortunes some few Stock-Exchange people have realised, in a short period, to the great detriment of the public.

In the New Stock and Share Exchange, all shares up to 30s. will bear a 1s. price—allowing a man to realise within 2l. 10s. of the amount he could purchase 60 shares for; and a list will be printed for circulation twice a day, containing all the bargains marked, obtainable at a reasonable price, singly or by quarterly subscriptions. Where merchants formerly sent letters of credit, they now frequently send shares, and would do so to a much greater extent, were it not for the ruinous and destructive prices of the present mode of doing business.

The commission of the brokers and agents belonging to the Exchange will be 6d. per share to non-subscribers, who will keep the numbers of shares, and other particulars. To increase the facilities to the public, and to open a means for the ready negotiation of money transactions, a New Stock and Share Exchange has been opened in Old Broad-street, City—offering to all persons, of every profession, trade, and calling, of respectable character, who are becoming subscribers, and of transacting their own business, which is a matter of impossibility in the London Stock Exchange, from their restrictive laws not allowing persons connected with it to belong to any other trade or business.

The new market is full of dealers ready for any amount of business, either for money or the account, at a close price, as already stated, and still leaving a good remunerative profit.

The securities against default are two members in 50l., or 50l. in cash, deposited in the hands of trustees, to be returned in the event of the subscriber desiring to terminate his subscription. On the first proof of default, members are expelled by the committee of management. The subscription is fixed at ten guineas annually.

**JOINT-STOCK COMPANIES.**—A return has just been issued (pursuant to an order of the House of Commons, dated July 20, the return having been prepared on the motion of Mr. B. Baldwin, on the 4th of May last), giving a list of all the joint stock companies which have been registered, provisionally or otherwise, under the provisions of the Act 7 and 8 Vic., c. 110; stating, in a tabular form, the style, title, and business of the company, the date of its formation or establishment, the date of registration, the names of the present directors, the nominal amount of capital, the amount paid up, the amount borrowed under Act of Parliament, with the title of such Act. This return is made up to the 1st of June last, and it contains—1. A list of existing companies, registered as having been in existence previous to the 6th of Sept., 1844.—2. A return of provisionally registered companies, the formation of which was begun subsequently to the 5th of Sept., 1844.—3. A return of completely registered companies, as formed under a deed of settlement or subscription contract, in manner prescribed by the Act.—4. A return of directors of provisionally registered companies.—5. A return of directors of completely registered companies. The first list, of companies existing previous to the 5th of Sept., 1844, contains the names of 994 companies, also the description of the business thereof, the dates of formation, and the date of registration. The second list, of provisionally registered companies, contains the names of 1633 companies, together with their date of provisional registration, a description of the business, and the amount of capital. Among these companies is one of a peculiar character, which was provisionally registered the 19th May last, entitled "The British and Irish Granary Corn Mill Company and Provident Institution," the capital of which is set down as 35,000,000l. Its objects are described as being "the purchase and sale of grain at fixed prices, cultivation of waste lands, encouraging the working classes, and offering Parliament the means of abolishing class taxation, by levying a duty on grain and flour sold by the company." The third list contains the names of 115 completely registered companies, giving the date of complete registration, descriptions of the character of the business, and the amount of capital. The fourth return gives the names of the directors of 1628 of the provisionally registered companies; and the fifth those of the directors of the 115 completely registered companies.

**COAL IN INDIA.**—Professor ANSTED read, at the British Association, a notice of the Coal of India, being an analysis of a report communicated to the Indian Government on the subject.—The coal districts of India described in this report are five in number, three in Northern India, and one in Cutch; whilst the fifth includes the province of Aracan, and the coast of the Birman Empire, near Tenasserim. The coal of Cutch is not of the carboniferous epoch, is of little importance, and unpromising. The great series of coal-fields of Northern India extends from Hoosungabad, and the Nerubudda river (lat. 28° N. long. 78° E.) in a N.E. direction for 400 miles, to Palamoo; thence eastward, for 250 miles, to Burdwan, near Calcutta, and again northward, 150 miles, to Rajmahal, exhibiting a frequent out-crop of sand-stone, shales, and limestone, with occasional beds of coal of variable thickness and value. Commencing again on the flanks of the Garrow Mountains, near the Burmahpootra, and on the banks of that vast river, similar beds, also containing coal, extend in a north-easterly direction nearly 400 miles. It is thus possible that there exists a range of carboniferous strata for 1000 miles along the base of the Himalaya Mountains, gradually becoming more distant towards the west.—1. The workable beds of the *Burdwan coal district* are 9 and 7 ft. thick respectively. There are 18 spots at which they are worked, which is usually at the surface, the deepest sinking is 190 ft. The distance from Calcutta is about 90 miles. The quality of the coal is very inferior to that of England.—2. *Central district.*—The coal has been worked near Palamoo at four places: there are several beds of workable size, but the coal is associated with a good deal of iron, is heavy, and of inferior quality. The coal of the Nerubudda district (Benar coal-field) is about 350 miles from Bombay, and the Nerubudda river is not navigable. At Gurrurwarra the coal is said to exist in beds respectively 20, 40, and 25 ft. thick.—3. *Beds east of Calcutta.*—In the district of Silhet, on the south flanks of the Garrow, 11 beds of coal, having a total thickness of 85 ft., have been discovered. This coal is of excellent quality, and belongs to the true carboniferous period. The Assam districts extend about 350 miles, chiefly along the south side of the Burmahpootra: in the upper district six coal fields are enumerated, and three in the lower; the coal of the upper district is associated with abundance of clay and ironstone. About 80 miles above Bishkenath other beds, 6 ft. thick, have been worked; the commander of one of the Assam Company's steamers describes it as the best he ever used, and far superior to any in Calcutta. The *Tenasserim and Aracan coal districts* are important from their near vicinity to India. In the former, coal has been worked at four spots—one of which promises to become valuable; another has been the subject of a report by Mr. Prinsep, who states it to be an admirable coal for gas. The whole is probably of the tertiary period.—Col. SYKES observed, that it was of importance to obtain coal for the proposed railways in India, especially as wood was beginning to be scarce in many parts. The report mentioned the occurrence of coal at 90 localities—most of them in a bed between the Nerubudda and Calcutta. With a trifling exception the whole of India south of this line was destitute of coal.—Mr. LYLE stated that he had lately examined the coal-field of Richmond, in Virginia—one of the most valuable in the United States. He had obtained fishes from that coal-field, which M. Agassiz referred to the *Oolitic period*; and the plants, which had been examined by Mr. Huxbury, presented an assemblage agreeing with those found at Whitby, in Yorkshire. The coal-field was known to be newer than the carboniferous period, and it contained one bed of coal, 30 ft. thick, from which gas had been made—and it was now becoming of great value. No estimate of the probable value of Indian coal could be formed by comparing it with coal of the same age in Europe.—Sir H. DE LA BICHE observed, that it was incorrect to suppose that, in other countries,

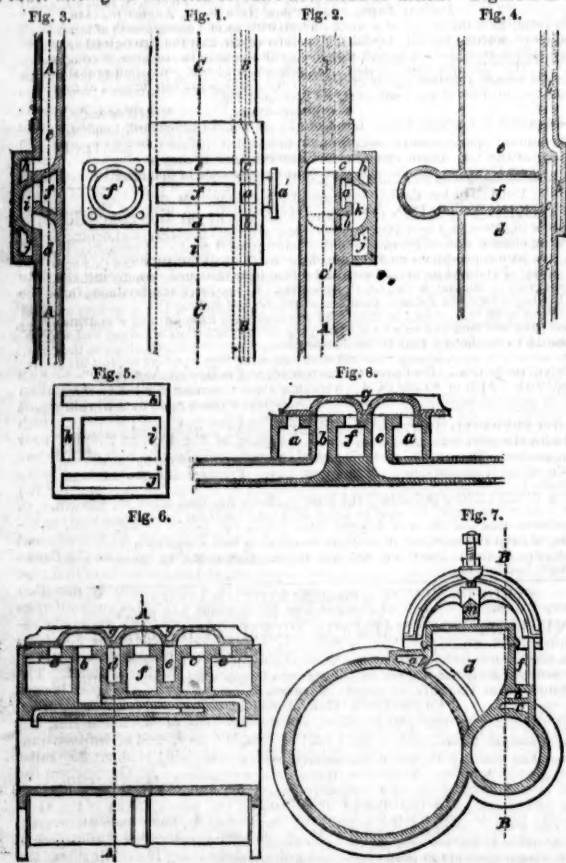


## Original Correspondence.

## ON ECONOMISING STEAM BY EXPANSIVE ACTION.

SIR,—In the Number of the *Mining Journal*, of December 27, 1845, you inserted diagrams and a description of a valve of mine, well adapted, in conjunction with the twin cylinder engine, to economise steam by its expansive action. The diagrams hereto annexed show a still further improvement for such a purpose, as we are thereby enabled to dispense with the valve-box, and adjust the pressure acting on the back of the valve to that required to keep it to its face, thereby removing the objection of too great friction and wear in the face of the valve, which high pressure steam, say of 100 lbs. to the square inch, has a tendency to produce. Three weeks ago, it was my intention to register the valve under our notice; but, after several delays, I was ultimately informed, it could not be received as one design; it is, therefore, my wish, through your kindness, to publish it. As my hitherto experience impels me to the conclusion, that patents, in such matters as relate to the steam-engine, are a "snare and a delusion," as they render it more imperative on the inventor to struggle onward against the crushing influence that is brought to bear against him, and which has led some of the most wary, who have had ample opportunity of observing the tortuous and insidious means used to suppress or obstruct such matters, to exclaim—Does the inventor think to bring out such a thing in his lifetime? Another class of persons would have us be resigned to our fate—for, say they, it is Providence that appoints the trial—to me this appears adding insult to injury, as the matter does not admit of a doubt, that either I have not used the powers my Creator bestowed upon me in a proper and honest manner, or else I have been a humble agent under him, for the more wide extension of those inexhaustible resources which he has placed at our command, whenever we rightly employ those powers he has endowed us with, and which minister at once to our own happiness and to that of all mankind. If such is the end and aim of energies thus employed, I fear it is worse than mocking us to ascribe the punishment to our Creator; for, in such a case, not only do men inflict the punishment, but, at the same time, set themselves to oppose the laws of Providence. The injury men in this manner have too frequently brought upon individuals, and their race, at length become so hideous and extensive, that they have always been prone, in such cases, to ascribe it to Providence; but, if we discriminate justly between the suffering, the cause of which could be properly ascribed to Providence, and that which man brings upon his fellow beings, by means which are the progeny of envy, of ignorance, or of a narrow selfishness, we shall perceive that the influence which providential chastisements has on us, is that of a wise and paternal Creator, which would arouse us from our indolence, reclaim us from our errors, and lead us to that we desire, which is happiness, by bringing us to see the harmony of his laws, the unity of his dispensations, and the constitution of our own minds—that he has made nothing in vain, but that all conspire to raise the individual, and advance the well-being of men in general. Whatever mars or retards this grand design, as exhibited in Nature and in Providence, is of man's doing; and, fortunately, here ends his power to do evil, in thus delaying the possession of yet greater good; as to destroy, or indefinitely retard, the increase of good to mankind, he cannot. When we contemplate that to the Great Being, who made the universe, "a thousand years are but as yesterday," how impotent and temporary does man's infringement of his benevolent designs become; and how fixed may be the confidence of all who wish and strive for the good, the true, and the useful, that their efforts will not finally prove in vain. That we cannot avoid feeling acutely, when we would do good, and men obstruct all our efforts, I wish not to conceal; yet when our individual suffering is placed side by side with the retardation of advantages in which millions may participate, it then loses its personal bearing, and would seem deserving the consideration of thinking men.

The following description, with the diagrams here given, will, I trust, render intelligible the form of valve and mode of action:—Figure 1 is a



plan of the steam ports; figure 2 is a section through B, and of the valve through A (see figure 5); figure 3 is a section through C, and of the valve through i (see also figure 5); figure 4 is a section of the passages through A, A, showing the manner the passages cross each other, so as to bring the steam from the bottom of the small cylinder into the top of the large cylinder; whilst, at the same time, the steam from the boiler enters through the port a, and hollow of the valve k, and the passage b (see figures 2 and 3), into the top of the small cylinder.

This crossing of the passages is not required, except when both small and large pistons move in the same direction—if they move in opposite directions, then the passages are as ordinary. I here remark, that the same letters refer to the same parts in all the figures: a is the steam port, communicating with the boiler through the branch a'—c is the steam port communicating with the bottom of the small cylinder—b, that which communicates with the top of the large cylinder—and d, that which communicates with the bottom of it—f, the exhaust port communicating through the branch f' with the condenser or atmosphere. In figures 2 and 3, with reference to figure 5, which shows the face of the slide valve, is shown its mode of action for both cylinders; in figure 2, it is seen that a, k, and b, communicate with each other, and also with the boiler, and top of the small cylinder, whilst k and c are seen to communicate with each other, and with the bottom of the small cylinder—so also does the same k (in figure 3) communicate with c, and with the top of the large cylinder. We have only here to conceive that steam is rushing from the lower side of the small piston, through k, and the passage c, to the top of the large piston; and that, at the same time, steam is rushing from the boiler, through a and k, and the passage b, to the top of the small piston; and it is clear that both pistons must be impelled in the same direction—the small piston by steam direct from the boiler, and the large one by that which is escaping from the exhaust side of the small one through the passage c. We have now only to notice, in figure 3, that the hollow of the valve i is in communication with f and d, by which means is opened

the communication with the vacuum in the condenser, and with the bottom of the large piston. Thus, by this simple contrivance, is one valve made to serve both cylinders, the valve box dispensed with, the pressure on the valve face adjustable at pleasure, and one of the most vital parts of the steam-engine at all times accessible: j is seen in figures 2 and 3 to be resting on the dead face, but on the reverse action it communicates with b and d, whilst k rests upon the dead face at the opposite end of the cylinder. Figures 6 and 7 show another arrangement; figure 6 is a section through B, showing the small cylinder cut through, and the large one lying behind it; g g is a section of the valve which, as here seen, is at the middle of the stroke in this arrangement; a and a' are two ports which communicate with the boiler—all the other letters referring to the same parts, as in the former description, further explanation of them is needless. Figure 7 is a cross section through A, showing the manner in which the pressure is communicated through a spring, which pressure is adjustable at pleasure, by the screw-pin passing through the brackets—two of which completes the arrangement. Figure 8 shows its application to single cylinder engines, g is a section of the slide valve; a and a', steam ports communicating with the boiler.—T. CRADDOCK: Birmingham, Oct. 6.

## MR. JOHN SCOTT RUSSELL'S NEW SYSTEM OF SHIPBUILDING.

SIR,—In the reports of the Southampton meeting of the British Association, there is a long account of a new system of shipbuilding, proposed by Mr. John Scott Russell; I have not been able, from the limited nature of the reports, to comprehend the entire theory propounded by that gentleman, but have gathered quite sufficient of it, to convince me, as a nautical man, that neither the reverend gentleman in the chair, or Mr. Russell, understand what is required of a vessel intended to meet, and successfully contend with, the angry billows, and terrific blasts of the ocean. Experiments tried in the still and confined waters of a canal can give but a slight idea of what is necessary to enable a vessel to ride triumphantly and unharmed over the crest of a wave, when beating against a strong head sea; also, a boat passing swiftly through the waters of a canal, is unable to clear her way as she would in open and unconfined water; because the displaced water, thrown aside, communicates the pressure to the surrounding portions of fluid, which, pressing on the sides of the canal, react on the displaced portions—thus, preventing their dispersion, cause the accumulation of the "high wave," described by Mr. Russell; and, although this wave may not be so apparent when the bow is narrowed, and the broadest part thrown farther aft, yet, wherever the broadest part of a vessel is, there will be the greatest amount of resistance to her progress—the amount of which will always increase with the square of the area of that broadest part, place it where you will. On this broadest part of the ship depends much, besides the resistance to her progress through the water; on its position entirely depends the facility with which she will answer her helm, it being the fulcrum on which all her motions and evolutions are performed, and if placed where Mr. Russell proposes, one-third from aft, the power of the lever on which the rudder acts would be so insufficient, being only one-half the length of the counteracting leverage, before the fulcrum or broadest part, that the vessel in a sea-way would neither steer, stay, nor wave—also, from the narrowness and want of buoyancy in her bows, instead of rising on the opposing wave, when close hauled against a high sea, she would cut right into it, burying herself in the water, and making it impossible for any person or thing to remain on deck. Besides this, the position of the foremast, and the broadest part of a ship, must have a reference to each other—the broadest part, as I have already stated, being the fulcrum on which the forces governing her motions in the water act and react on each other, so is the foremast with the canvas set on it, the centre, on which the whole of the canvas spread throughout the vessel is balanced; and it is absolutely necessary to have a connection between it and the broadest part of the vessel, in order that the canvas set on the main and mizen-masts may be trimmed, so as to act with the rudder in keeping the ship's head to the wind; also, in the act of staying, an evolution it is absolutely necessary to perform in the very shortest time, the position of the foremast, and broadest part of the ship, influence the manner in which the vessel will come round, the rudder acting on the leverage about the broadest part, whilst the sails on the main and mizen-masts act on the head sails—those on the bowsprit, the jibs, and staysails, being rendered nugatory by letting go the sheets.

I could point out numerous other reasons against placing the broadest part of a ship, as proposed, on the wave system, also decided reasons for not having a "full water line abaft;" but have already exceeded the extent I at first intended, and must, therefore, conclude, by requesting you will insert this protest of an old sailor, against the interference of men, who do not understand what is required of a vessel constructed to resist the action of storm and tempest, and at the same time be nimble and active under her canvas.—[I enclose you my card and address.] NAUTICUS.

## THE "GREAT BRITAIN" STEAM-SHIP.

SIR,—The position of this extraordinary vessel has become the subject of general conversation and regret with all parties connected with the commercial interests of Great Britain; and your *Journal*, being a channel of communication to a vast number of scientific, as well as commercial men, I would beg to submit a suggestion, which I think might be rendered useful, and improved upon by those connected with that ill-fated ship. There are many persons who are apt, and, in private conversation, would adopt measures for the removal or floating of the vessel, without once attempting to press their ideas on those interested in the matter. The thought has suggested itself, that whilst we abound with nautical men of science, and engineers of talent, that, if a reward were offered publicly for the proffered services of such, that many suggestions would be submitted for the immediate rescuing the unfortunate vessel. The amount of insurance effected by the company must be serious, and the loss sustained by the proprietors surpass even that amount. I would, therefore, suggest the proposal of a sum sufficient to amply repay the successful effort, to be paid to such person or company who would undertake the object—the insurance office to pay one moiety, and the directors the other, or each in proportion to the amount they may be interested. There should be no preference given to particular parties; but all proposals received, and an early determination given for the trial to that party whose proposition should be most feasible. Thus, would then be creating a desire of emulation among men of science and ingenuity; and, perhaps, draw out some talented man, who would, perhaps, otherwise, be "born to blush unseen." I perfectly well recollect Sir, terms being submitted to the directors for floating her out of her imprisonment in the Bristol Docks, without removing the piers; but this was rejected—most probably because it would detract from the talents of their eminent engineer. I submit this suggestion from no other motive, than that of conceiving measures may be proposed, which, in all probability, would be overlooked. I could point to some men who might effect or attempt the object; but I name none, lest it may be considered from interested motives.—Z.: Stepney, October 8.

## IRON PIPES—SPIRAL RINGS.

SIR,—We observe, from time to time, in the newspapers, that considerable damage is done by the bursting of iron water pipes. Would they not be considerably strengthened by casting a spiral ring round them. I some time since demonstrated, that the tension pressure on every point of the circumference was equal to half the whole pressure around the pipe.

Penzance, Oct. 3. A. T. J. MARTIN.

## COMPASS VARIATION—IRON SHIPS.

SIR,—Among other causes, the loss of the *Great Britain* has been ascribed to variation of the compass by attraction, when on certain courses. If so, would not having a compass in the bow as well as astern, and halving the variation of each (as compared) in opposite directions, give the true course?

Penzance, Oct. 3. A. T. J. MARTIN.

## CARBONIC OXIDE.

SIR,—You say, in a paragraph, that a person has taken out a patent for the application of carbonic oxide, "for illumination and heating," from anthracite. I beg to observe, that carbonic oxide is calculated for neither the one nor the other. Ignited carbonic oxide burns with a pale blue flame, with very low illuminating power; and the temperature yielded by the flame, is far below that of any inflammable gas that I am acquainted with—I am now speaking of carbonic oxide as such, and not of carburetted hydrogen, which is an entirely distinct gas, though the former may be made an auxiliary to the manufacture of the latter. Carbonic oxide is, when inflamed, extremely evanescent, and a most subtle poison, acting promptly on the brain, as a narcotic. It is the last flame which makes its appearance when common coals become entirely red-hot; it is seen in ignited coke, charcoal, and anthracite; and is best obtained, chemically, by adding sulphuric acid, to crystallised oxalic acid, in a glass retort, and applying heat; the gas remains permanent over water. J. MURRAY.

Portland-place, Hull, Sept. 28.

## ON THE IRON MANUFACTURE OF GREAT BRITAIN.

MR. G. R. PORTER (of the Board of Trade) presented an elaborate report on this subject to the late meeting of the British Association, which he had prepared at their request.—Having called attention to the enormous demand for iron consequent on the general and simultaneous construction of railways in England, on the continent, and in India, he said it was important to consider how that demand may be met; and also how, on the cessation of that demand, which must be temporary to a great extent, the ruinous depreciation of capital and suspension of employment, consequent on the change, may be averted. In 1788, the whole quantity of pig-iron made in England and Wales, amounted to no more than 61,300 tons; of which 48,200 were made with coke of pit-coal, and 13,100 from charcoal; in the same year, the amount raised in Scotland was 7000 tons. In 1796, the quantity, owing to Watt's improvement of the steam-engine, was nearly double, being—

England and Wales.....108,993 tons.  
Scotland.....16,686 "

Total.....125,679 tons.

Ten years later—viz. in 1806—when it was proposed to tax the production of iron, an inquiry was made, and the production was found to have more than doubled in this decennial period, being—

England and Wales.....234,966 tons.  
Scotland.....23,240 "

Total.....258,207 tons.

In 1823, the quantity had risen to 482,066 tons; and in 1830, it was further increased to 678,417 tons. But since 1830, in consequence of the introduction of the hot-blast by Mr. Neilson, of Glasgow, rapid improvements have been made, and a most important saving of fuel effected. The results were thus stated:—

In 1823, using coke and cold air, each ton of iron required for its production 8 tons 1 qtr. of coal. In 1830, using coke and heated air, each ton of iron consumed in its production 5 tons 3 cwt. 1 qtr. of coal. In 1833, using raw coal and heated air, each ton of iron consumed in its production 2 tons 5 cwt. 1 qtr. of coal. The saving in fuel is thus seen to amount to 72 per cent; and, in Scotland, the production of iron has risen from 37,500 tons in 1830 to nearly 500,000 tons in the last 12 months. There exists a prejudice against the hot-blast iron which is gradually abating; and a similar prejudice long prevented the use of the black-band ore, the value of which was discovered by Mr. Mushet, so far back as 1801. In 1836, every iron-works in Great Britain was visited by M. F. le Play, chief engineer to the Paris Board of Works; and he estimated the amount produced that year at 1,000,000 tons. In 1840, Mr. Jessop found that there were 402 furnaces in England and Wales, in which 82, or 1 in 5, were out of blast; and out of 70 furnaces 6, or 1 in 11, were out of blast. The quantity of iron made, in 1840, was 1,343,390 tons; but, in consequence of the commercial depression, this fell to 1,046,428 tons in 1842, being a depreciation of 22 per cent. He next directed attention to the effect of railways on the price of iron. In 1836 and 1837, Parliament passed 77 railway bills, of which 44 were for new lines, and the aggregate of extent about 1200 miles, requiring a production of more than 500,000 tons of iron. The price of bar iron which had been 67 10s. per ton in 1834, rose to 71 10s. in 1835, and in 1836 to 112; but in 1837, the railway speculation had so far subsided, that only 16 Acts for new lines were passed from 1838 to 1843, the price of iron fell more rapidly than it had risen, and during this period, iron could be sold with difficulty at less than half the price it commanded in 1836. The average price of iron at Glasgow in 1844, was 27 5s. 6d. per ton; in March 1845, it rose to 5s.; and in May to 57 10s.; this rise in price of 175 per cent. gave such stimulus to production, that the make of pig-iron, in Scotland, for the first six months of this year, was 260,000 tons, or at the rate of 520,000 tons per annum; the production having been doubled since 1840. It is the opinion of the iron-masters that since 1840, nearly all the increased production of iron in the Kingdom has been drawn from Scotland. It appears that the demand created by the new railways, has stimulated every establishment to its utmost limits of production. But, in order to add materially to the make of iron, a great many circumstances must concur. One of the chief difficulties arises from the workmen: skill is necessary, and the number of those properly trained is so limited, that they make demands for an enormous and disproportionate increase of wages on the first appearance of prosperity. Thus the cost of production seems to have more than kept pace with the rise of price. From this, combined, perhaps, with other causes, the amount of production in England for 1845 was only 917,500 tons, being 288,000 tons less than the production of 1840. From comparing several returns, it is clear that we have no reason to dread a failure of material—some valuable and extensive fields of black-band ore having been recently discovered in Wales; but it seems not improbable that the Staffordshire iron-works will soon experience a deficient supply of coal. A new source of supply has been found in the refuse and waste of the lead mines of Wexford. The residue of the lead ore is a true carbonate of iron, yielding from 25 to 40 per cent. A small blast furnace has been erected at Stanhope, for smelting this residue, and pig-iron of a strong and excellent quality has been produced. In consequence of this success, the company has commenced the erection of very extensive smelting works, near Walsingham. The difficulty then arises in the supply of labour. It is hopeless to stimulate the exertions of the persons already employed. They are naturally ready enough to exact higher rates of wages when the demand for their labour becomes more urgent; but, succeeding in this, they prefer to obtain the same amount of earnings, with higher rates of wages, to the securing of greater gains by the exertion of even the same amount of toil; so that a greater urgency on the demand may be, and frequently is, accompanied by a lessened production. During the period of depression, the low price of iron led to its being extensively applied to various purposes of construction in civil and naval architecture. On the subject of iron ships, Mr. Porter entered into some calculations to show their economy; but the subject will be found more fully discussed in our report of the paper read by Mr. Fairbairn before the meeting of the British Association in Glasgow, in 1844. Up to the beginning of the present century, nearly two-fifths of all the iron used in this Kingdom was imported from the north of Europe; but, in 1806, this proportion had fallen to one-eighth, and foreign iron is now only imported for the manufacture of steel. Our exports, on the contrary, have so increased as to become an object of national importance.

In 1827, we exported 92,313 tons, declared value.....£1,215,561.

In 1845 " " 351,278 " " " " " " 3,501,895.

The increase of our exports appears to be contingent on a reduction of price, and must, therefore, be materially affected by variations in the cost of production. Should the new railways stimulate a much larger production of iron, the quantity produced will greatly exceed the demand so soon as those railways are completed; and then prices will fall, perhaps, to a lower point than has ever yet been witnessed. This will, probably, cause iron to be applied to many new purposes, and particularly to the construction of ships, fire-proof houses, and frame-work houses for export to new settlements. All this, however, must be the work of time; and it seems but too probable that, in the meanwhile, our iron-masters will have to undergo a somewhat lengthened season of adversity—for the enduring of which they are, in a measure, prepared, from former experience.

MUSHET'S BLACK-BAND.—MR. BALD read a paper, at the British Association, on the "Mushet Band," commonly called the Black-band Ironstone of the coal-field of Scotland.—This band of ironstone was discovered, about 40 years ago, by Mr. David Mushet, of the Calder Iron-Works, near Glasgow. It had been frequently passed through; but was thrown away as rubbish, till Mr. Mushet ascertained its value—when extensive mines were opened for working it. Two bands of this ironstone are found in the great coal-fields of Lanark—one 14 in. thick; the other, which is 78 ins. lower, is 16 in. thick. The ironstone of the Mushet band is much more easily reducible than the ordinary dry ironstone—and requires less fuel. In Scotland it appears to be co-extensive with the coal formation. In South Wales, also, it is found; but there is little of it in England or Ireland. Fifty years ago there were only five iron-works in Scotland, comprising above 15 blast furnaces, which, together, produced 540 tons of iron per week. There are now 100 blast furnaces in action, which produce 12,000 tons per week, or 624,000 tons in the year—the value of which, at 37 per ton, is 1,872,000. This great increase Mr. Bald attributed to the discovery of the Mushet ironstone, and to the introduction of the hot-blast. He also mentioned that Mr. Mushet, who is now in his 86th year, has published a volume on the manufacture of iron, containing an analysis of every ironstone and ore he could obtain; and he trusted his labours would, at least, be recognized in scientific societies, although the pecuniary advantages arising from his discoveries had fallen into other hands.

IRON-WORKS IN CANADA.—One of the most extensive manufactures in Canada East, is the St. Maurice Iron-Works, in the rear of Three Rivers. The iron ore found there is not only abundant, but is of the best description. The hammered iron manufactured from it is quite equal to the best English iron; and the stoves cast from it are considered superior to the best Scotch castings. Although we have no statistics at hand to guide us in our estimates of the amount of iron manufactured there, yet we know that many thousands of tons are annually turned out, even under the very great disadvantages with which the forges and blasts are worked. The system hitherto adopted and carried out there is of the most primitive description; but since a change is about taking place of proprietors, we may naturally look for an improved method being adopted, whereby a much larger amount of manufacture will be produced at a great reduction in price. Some idea may be formed of the magnitude of these works when we state that from 1200 to 1500 mouths are dependent upon them.

MINERAL WEALTH OF THIS COUNTRY.—In the course of a lecture, delivered to the general classes of King's College, by Mr. Tennant, on mineralogical geology, the lecturer stated that the annual value of the mineral produce of this country, amounts to about 25,000,000. Of this, 9,100,000 is from coals; 8,400,000 from iron; 1,200,000 from copper; 930,000 from lead; 400,000 from salt; 390,000 from tin; 60,000 from manganese; 35,000 from silver; 22,000 from alum; 8000 from zinc; and 25,000 from various other metals, as antimony, bismuth, arsenic, &c.







**NISTER DALE IRON COMPANY.—TENDERS FOR LOANS.**—The works of this company are now in full operation at NISTER DALE, near Hachenburg, in GERMANY, and at SWINTON, near Rotherham, YORKSHIRE; and the directors, being empowered by the Deed of Settlement to raise additional capital for extension of the works, give Notice, that they are prepared to RECEIVE TENDERS FOR LOANS, ON DEBENTURES, at 4 per cent. interest.—The holders of the debentures will have the option of converting the same into shares, at any time within three years, and the interest will be paid half-yearly, at the company's offices.

For further particulars, apply at the offices of the company, No. 10, Old Jewry Chambers, London; or to the company's solicitor, Mr. George Hume, No. 10, Great St. James-street, Bedford-row, London.

By order of the board,  
HENRY SCALE, Managing Director,  
F. W. EMERSON, Clerk.

Sept. 23, 1846.

**CALEDONIAN RAILWAY.—TWENTY-FIVE POUNDS SHARES.**—The directors hereby give notice, that the TWENTY-FIVE POUNDS SHARES, in the CALEDONIAN RAILWAY COMPANY, are now in COURSE OF REGISTRATION; and they request those parties who have not yet forwarded their scrip, to do so without delay.

By order,  
J. BUTLER WILLIAMS, Secretary.

122, Princes-street, Edinburgh, October 1, 1846.

**CALEDONIAN EXTENSION RAILWAY.**—Notice is hereby given, that in accordance with a RESOLUTION, passed at a MEETING of the shareholders of this company, held to-day, at GIB'S Royal Hotel, Princes-street, Edinburgh, the sum of ONE HUNDRED FIFTY THOUSAND POUNDS per share will be RETURNED TO THE HOLDERS OF SCRIP, on and after the 15th day of October next; and the holders of scrip are requested to deliver, or transmit, their scrip certificates to the secretary, at 122, Princes-street, Edinburgh, four days prior to the day of payment—each of such certificates to be indorsed with the names and addresses of the holders of such scrip.—Bank cheques will be delivered, or, if requested, transmitted by post, to the holders of the scrip certificates, four days after their receipt.

By order of the board,  
JOHN MARR, Secretary.

122, Princes-street, Edinburgh, Sept. 23, 1846.

**CAMBRIAN AND GRAND JUNCTION RAILWAY COMPANY.**—Notice is hereby given, that a MEETING of shareholders in the above-mentioned company will be HELD, in pursuance of the 9th and 10th Vics., c. 28, at the British Hotel, Cockspur-street, in the city of Westminster, on Monday, Oct. 12, 1846, at Eleven o'clock in the forenoon, for the purpose of determining whether the said company, or partnership, shall be dissolved.

Every person claiming to vote at such meeting must bring with him, and produce at such meeting, his scrip, or bankers' receipts, or duly appoint a proxy, in the manner described by the said Act, to represent him at such meeting, and to produce such scrip, or bankers' receipts, on his behalf.—Dated this 29th day of September, 1846.

Signed, on behalf of the committee,  
EDWARD HALL (being a member of the same).

**CAMERON'S COALBROOK STEAM COAL & SWANSEA AND LOUGHOR RAILWAY COMPANY.—(REGISTERED.)**—Notice is hereby given, that, in pursuance of this company's Railway Act, 1846, the FIRST GENERAL MEETING of shareholders of the company in regard to the railway, will be HELD at their offices, Moorgate-street, London, on Wednesday, the 14th day of October next, at Eleven for Twelve at noon precisely, for the purposes expressed in the several Acts of Parliament incorporating the company. Original holders of certificates of shares already registered do not require to re-register their shares; but parties who hold their certificates of shares by transfer, cannot be admitted to attend and vote at the meeting, unless such transfer shall have been registered previously to the meeting.—Dated this 21st day of September, 1846.

By order of the directors,  
A. C. HOWDEN, Secretary.

**ARMAGH, COLERAINE, AND PORTRUSS RAILWAY.**—At a Meeting of the shareholders of the Armagh, Coleraine, and Portruss Railway Company, called upon a requisition, pursuant to the provisions of the Act 9 and 10 Vics., cap. 28, and pursuant to notice, duly advertised according to the said Act, held at the London Tavern, in the city of London, this 23rd day of October, 1846, GRIFFIN CURTIS GALT, Esq., one of the members of the provisional committee, was, within one hour of the time appointed for holding such meeting, duly elected chairman; and, having taken the chair, James Stride, William Palmer, and Thomas Culverwell, three shareholders in the said company, were immediately afterwards elected scrutineers by the meeting, to verify and take the votes of the shareholders entitled to vote under the said Act, and to cast up and declare the same.

It was then moved by Mr. Schultz, and seconded by Mr. Creed, That the Armagh, Coleraine, and Portruss Railway Company be dissolved.

The chairman put the question from the chair, and the said scrutineers proceeded to take and record the votes thereon; and its appearing, by a certificate in writing under their hands, that persons representing 11,625 shares were present and voted, and that 1690 votes were in favour of the dissolution, and 9965 votes were against the dissolution—showing a majority of 8205 votes against the dissolution—the chairman declared that the motion was not carried.

GRIFFIN CURTIS GALT, Chairman.  
JAMES STRIDE, WILLIAM PALMER, THOMAS CULVERWELL, Scrutineers.

London Tavern, Oct. 2, 1846.

**PROSPECTUS OF THE NEW BRIDGE AND TAFE VALE COLLIERY, GLAMORGANSHIRE.**—2000 shares, at £10 each.

This valuable colliery is situated in the parish of Llanwano, in the county of Glamorgan, in the centre of the South Wales Mineral Basin, contiguous to New Bridge, 12 miles from Cardiff, and 12 miles from Tafe Vale Colliery, Merthyr Tydfil, near the property—granted, by a lease of 360 acres, for the term of 31 years. The property is surrounded with profitable collieries—one of which (Mr. Coffin's) adjoins this, and supplies the Great Western Railway. Three veins are found to be throughout this property—the Goffion Vein, 3 ft. thick—the Cummor Vein, 3 ft. thick—and Coffin's Vein, 4 ft. thick. These veins—proved by the usual computation—will yield an aggregate quantity of five millions tons. This, by working 200 tons per day, from one pit only, at a profit of 2s. 6d. per ton, will yield a clear income of upwards of £7500 per annum; but, as this rate of production will last considerably more than thirty years, the colliery will be worked by more pits, and consequently, yield a profit of at least £20,000 per annum, at a cost of, say, 6s. per ton, and sale 8s. 6d. per ton; but Mr. Coffin obtains considerably more per ton; and, therefore, it is but fair to suppose the present company will obtain the same; in which case, the profit will be upwards of £20,000 per annum. Even this large sum cannot be supposed to be too highly estimated, when it is recollected that the utmost cost is estimated at 6s. per ton, and the sale only at the moderate price of 8s. 6d. per ton—whereas all coal of the district is sold above the estimate, and that the Tafe Vale Railway runs through the property—thus the colliery is within 12 miles of the large shipping port of Cardiff—that the coal can be raised from the pit and directly placed on the railway waggon—and that the coal is known to be of superior quality for steam-engines, from the fact of its being used by the Great Western Railway. The colliery will be in full operation in about two years. For the first year the shareholders will receive a dividend of only 5 per cent. out of the first year's produce; but, as in the meantime, the Goffion and Cummor veins will be reached, and be in gradual increase of produce—the second year's dividends will be large; and, therefore, there is every fair reason to say, this undertaking, not only carries the certainty of large profits, but presents a fairer and more legitimate prospect of remuneration to the shareholders, than was ever presented to the public.

**COST OF PRODUCTION AND CARRIAGE TO SHIPPING PORT.**

Getting or Winning	..... per ton 1s 1d	Wear and Tear	..... 0s 3d
Underground hauling	..... 0 1	Shipping Expenses to Port	..... 1 1d
Dead Work	..... 0 1	Divers extra expenses	..... 0 6
Prop Wood	..... 0 1	Agency and incidental Charges	..... 0 3d
Royalties	..... 1 0		
Total	..... 3s 6d		

Sale, 8s. 6d.—Cost, 6s. 0d.—Profit, 2s. 6d. per ton.

Application for shares, to be made to Messrs. Roberts, Carter, and Co., mining surveyors, 21, Portman-street, Portman-square, where the engineer's calculations may be seen in detail (also a plan of the property, and conditions obtained).

**CONDITIONS.**

- The undertaking is divided into 2000 shares. One-half of these are retained by the proprietors as free shares. For the purpose of providing an ample working capital—1000 shares, are open to the public, at £10 each.
- All transactions of the company to be conducted on the Cost-book Principle.
- That the colliery consist of 2000 shares, representing £10 each; £5 to be paid down, and the remaining £5 six months from the time of subscribing—if not paid within such period, the shares shall be forfeited for the benefit of the general proprietor.
- That all moneys belonging to the company be deposited in the West of England Bank at Cardiff, to the credit of the company, in the names of two trustees, and drawn therefrom by cheques, signed by one of them, and counter-signed by the manager and purser, in such sums only as will cover the current monthly costs; that all materials, labour, and bills, may be discharged at the end of every month, and that vouchers be produced to that effect.
- That a general meeting of the shareholders be held quarterly, on the colliery, of which due notice will be given by circular from the purser, when all matters relating to the company's affairs will be detailed.
- That the operations, and the general matters appertaining to the company's interest in the colliery, be conducted by the manager and purser, who, alone, shall be responsible for all acts contracted, so that no shareholder shall be liable for any amount beyond his or her respective shares.
- That the purser shall keep a book wherein he shall enter the name and abode of each shareholder, and the number of his or her shares; and in case of sale or transfer, the seller shall send to the purser the number of the shares sold or transferred, with the proper address of the purchaser; and no share, unless so entered, will be recognised by the company.
- The reports of the manager of the works, and the books of the company, shall be open to the inspection of the shareholders at all reasonable times, at the office, on application to the manager and purser.
- The leases and legal titles of the colliery, and all the property, machinery, effects, and assets of the company shall be, and are henceforth, vested in the trustees, Messrs. Walton Fell, Jun., of Clifton, and Peter Paul Couch, of Nant-y-Braun House, in trust for, and on behalf of, all such parties as now are, or hereafter may be, proprietors of shares therein; and, according to their respective interests therein, to distribute and pay the quarterly or half-yearly dividends, profits, and bonuses, in accordance with the usual rules and regulations, as entered in the cost-book of the colliery.
- All parties interested in the colliery, shall receive a transferable certificate, representing the number of shares held by him or her;—the holder of which will be entitled to receive all dividends, profits, and bonuses, from time to time—but will not be allowed to vote at any meeting, or have a vote in the management of the affairs of the company, until such proprietor shall have made application to be registered as a shareholder in the cost-book of the colliery, three months previously to such meeting.
- That the London business, and the correspondence of and relating to the colliery, shall be transacted and carried on at the offices of Messrs. Roberts, Carter, and Company, mining surveyors, and general investment agents, 21, Portman-street, Portman-square, with whom shall also be deposited a duplicate book of the certificate holders of shares in the said colliery, and also copies of the cost-sheet, reports of the state of the colliery, and resolutions of the quarterly general meetings of the shareholders heretofore appointed to be held as aforesaid.
- A general meeting of the shareholders may be called at any time, by a requisition signed by shareholders holding not less than one-fifth of the whole number of shares, addressed to the purser or manager, at the offices of the company on the colliery.

**METROPOLITAN IRON AND STEEL COMPANY.**  
Provisionally Registered, pursuant to 7 and 8 Vics., c. 110.  
Capital £200,000, in 10,000 shares of £20 each.—Deposit £2 per share.

A company has been formed for the MANUFACTURE OF IRON AND STEEL (from cast, scrap, and all descriptions of raw material), which shall be of a superior quality to any hitherto produced in the mining districts.—The objects of the company are fully explained in the prospectus.

In allotting the shares a preference will be given to parties in the iron trade.

Application for shares and prospectuses to be made to Mr. Charles Chilton, No. 30, Moorgate-street.

**PROSPECTUS OF THE BRISTOL AND POOLE HARBOUR RAILWAY COMPANY.**  
Capital £1,000,000, in 50,000 shares, of £20 each.—Deposit £2 2s. per share.  
REGISTERED PROVISIONALLY.

**PATRONS AND SUPPORTERS.**  
SIR E. DOUGLITY, Bart., Upton House, Dorset.  
JOHN SAMUEL WANLEY SAWBRIDGE REE DRAX, Esq., M.P., Chardonbury Park, Dorset.  
J. WELD, Esq., Lulworth Castle, Dorset.  
Colonel JOHN MICHEL, Dulish House, Dorset.  
WILLIAM CARTWRIGHT, Esq., Proprietor of Collieries in Monmouthshire and Glamorganshire.  
E. B. ASHFORD, Esq., Babcar, Somerset.

**ACTING COMMITTEE.**  
HENRY STRETTON, Esq., Knapgate, Chairman.  
Major J. B. Home, Army and Navy Club, Great Cornam-street, Russell-square.  
John Gray Wilson, Esq., Westbourne Grove.  
Col. W. Mainwaring Sloane, Seymour-st.  
Sir James Caleb Anderson, Bart.

**PROVISIONAL COMMITTEE.**  
(With power to add to their number.)  
Fred. William Hamilton, Esq., 59, Gloucester-place.  
Rees Price, Esq., M.D., Tyne Hall, Great Hall, Essex.  
Capt. T. C. Newton, Bruton-street, and Lugwarden, Herefordshire.  
Thos. Ottery Rayner, Esq., M.D., F.R.S., 1, Matthew's-place, Cambridge-heath.  
Rev. C. Davies, Sandgate.  
Major J. M. Guernsey.  
Benjamin Head, Esq., 27, Gloucester-terrace, Kensington.  
Edward Sankey, Esq., Canterbury.  
J. Johnson, Esq., Davies-street, Berkeley-square.  
G. Pusey, Esq., The Delta, Stoke Newington.  
N. Cronch, Esq., South-place, Euston-square, and 64, Pall-mall.  
R. B. Crofts, Esq., Hamilton-square, Birkenhead, Cheshire.  
John Britten, Esq., Basinghall-street.  
Lieut. Charles F. Hill, R.N., Queen's-square, Bristol.  
Henry Lyster, Esq., Spring-terrace, Wandsworth.  
Capt. Hippisley, Somerset-street, Cavendish-street.  
Wm. C. O'Connell, Esq., Upper Seymour-street, Portman-square.

**LONDON BANKERS.**  
London and County Bank; the London Joint-Stock Banking Company.  
**COUNTRY BANKERS.**  
Messrs. Stuckey and Co.; National Provincial Bank of England; Messrs. Ledgard and Co., Poole; Messrs. Bastard and Co., Blandford.  
**ENGINEER.**—George Kemble, Esq.  
**SECRETARIES (pro tem).**—Messrs. Castleman and Kingdon.

**SOLICITORS.**  
Gilbert Stephens, Esq., 13, Northumberland-street, Strand.  
Messrs. Castleman and Kingdon, Wimbome.

Since issuing the former prospectus, the committee being determined to proceed on the surest grounds, and anxious for the ultimate success of the undertaking, have made further and more minute inquiries into the remunerative traffic to be expected on this line; and they are warranted in stating, that the result of such inquiries has greatly exceeded the expectations upon which they grounded their former prospectus.

This line of railway, commencing at Bristol, will open a direct communication with Poole, passing through or near the important towns and villages of Withchurch, Pensford, Clifton, Shepton Mallet, Bruton, Castle Cary, Wincanton, Stalbridge, Sturminster Newton, Shillingburg, Stourpaine, Blandford, Spittisbury, Sturminster Marshall, Wimbome, Minster, to Poole Harbour; and thus, by means of the line of packets intended to be established by this company, from that port to the Channel Islands and Cherbourg, and the railways new in progress from the latter place to the French capital, and from thence to Lyons, will complete the line of communication by the most direct way from Edinburgh to the south of France; thus enabling that country to supply herself with many articles of commerce at little more than half the cost she at present pays, and leaving a good remunerative profit to the company and producer at home.

Among the various sources of traffic to be expected on this line, the following are the most prominent:—The supply of the Government, with coal from the Welsh and Somersetshire pits, by means of the proposed line, for its different naval and steam depots throughout the world. The Somerset pits, which are 36 in number, yield at present, about 2000 tons per diem, but are capable of yielding a much larger quantity; and, supposing that 2000 tons were carried by the railway, at 1d. per ton a mile, a distance of 40 miles for 300 days in the year, which is less than the company has every reason to expect, it would yield a net profit of £100,000, or 10 per cent. upon the estimated capital; deduct then 40 per cent. for working the line, wear and tear, and there remains the sum of £60,000, or 6 per cent. per annum on the capital. There can be no doubt of the demand of this important article of general consumption, from the great diminution of price to the consumer by the costs of carriage being reduced to 1d. per ton per mile from the present cost, which is from 6d. to 10d. The supply of the Channel Islands (population more than 100,000), and of France, with the best species of coal for the production of gas, as well as for the use of their manufactures and for domestic purposes. This article, by means of the line, will be carried at a cost of 1d. per ton a mile, and will yield a very fine remunerative profit, and be of the greatest benefit to the coal proprietor, as the coal necessary for the purposes of gas can be obtained in very large quantities, and delivered at Cherbourg at one-third less than they are now giving for the same coal, and which cannot, therefore, fail to be of equal benefit to the merchant abroad, the producer at home, and the proposed company. Besides these two great sources of coal traffic, there is the supply of the southern coast, and the different districts on the line, with coal for domestic use, at a saving of from 6s. to 7s. a ton. This is a circumstance that cannot fail to secure to the company the entire traffic, and be of the greatest benefit to themselves and the public in general. In addition to this, the line will afford to the great manufacturing city of Bristol a ready market for all those articles of commerce of which France and the Channel Islands stand so much in need, and which are manufactured in great quantities at that city; and as soon as the line is completed, tenders will at once be submitted to Government for the more speedy transmission of the mails to the Channel Islands, by which a saving of more than 12 hours will be effected, and to the north and north-west of Great Britain a saving of 24 hours.

There is also very considerable traffic to be expected from the various stone quarries, iron mines, and clay pits, on the line (the clay pits yielding alone more than 50,000 tons annually); and from the Isle of Wight, for the manufacture of glass, of which more than 10,000 tons annually are used in Birmingham alone; the present mercantile traffic which now goes round the Land's-end to the western ports; the great agricultural, manufacture, and passenger traffic from the rich and populous districts through which the line passes; and the traffic which must be thrown upon the line from the Welsh iron and coal masters, as being the nearest and most direct outlet to the continent for the produce of that country. Independent of remuneration, this line will be looked upon as a great national undertaking, and benefit—as it will do away with the necessity for vessels now employed in the Dutch, Danish, Swedish, and Russian trades, bound to the western parts of England, going round the Land's-end, by at once opening to them the harbour at Poole, which has been pronounced by eminent engineers to be one of the best natural harbours in the world, and capable, at a small expense, of being made accessible to vessels of the largest class with perfect safety, and enabling them to send their cargoes to their different destinations in less time, and at less expense, than at present; by this means, not only will the shipowner and merchant be greatly benefited, but the company will derive an immense annual revenue from the transport of their cargoes, and the line will be again distributed, by means of their railway, to the different manufacturing towns throughout this country; and the passenger traffic that would naturally follow so large a portion of mercantile traffic cannot fail to yield to the company a very handsome return upon their outlay.

The average number of vessels detained in this trade in going round the Land's-end amounts, from the most authentic sources, to about 4000, each vessel averaging a detention of five days. The average tonnage of these vessels amounts to 180 tons, which would give six men to each vessel, working at the rate of £20 per month, which would give for the number of days detained, £10 to each vessel; this, multiplied by the number of vessels—viz. 4000—would give the sum of £40,000, which will be entirely saved by means of this line. This is independent of the loss of life, destruction of property, expense of insurance, and loss of time, which would all be saved by the projected rail—the statistics of which, did space allow, would make every one look upon the present undertaking, not only as one of great local importance, but one of great national benefit.

The advantages have long been known and appreciated, and the present company have determined to bring them into play in the most full and efficient manner. The expense of storage at Poole, as well as the port dues, are less than at any port in the kingdom; so that the merchant would be enabled to keep his goods there at a less expense than at his own port. He would be enabled to perform five voyages for every three from the northern parts; and, by means of the speedy communication by the electric telegraph, and the rapid travelling of the present day, many advantages and conveniences will be afforded.

A careful preliminary survey having been made by the company's surveyor, the line has been pronounced to present less than the average engineering difficulties, about 30 miles being, through a rich, populous, and level valley. The harbour of Poole has also been surveyed, and the bar at the mouth of the harbour has been pronounced to be capable of removal, and is now actually being removed; thus opening to vessels of the largest tonnage one of the safest and most commodious harbours in the world.

These are a few of the advantages offered to the public by the projected line; and the committee, impressed with the sense of the excellence and legitimacy of the undertaking, and basing their views upon ascertained facts and undoubted evidence, feel themselves warranted in offering to all applicants for shares the following conditions:—viz. That no party taking shares in the said company shall be liable in case of failure of the company to a larger amount than 5s. per share, unless a greater sum shall be sanctioned at a general meeting of the shareholders called for that purpose; so that, in case the company fail at any period of time prior to such meeting being called, the committee pledge themselves to return £1 17s. 6d. per share instead of £2 2s., and a proportionately larger amount if the accounts of the company, upon inspection, show a less expenditure.

At the first general meeting of the shareholders the committee will produce an account, signed by the bankers, of the several sums received by them on account of the company, and the balance of the shareholders, that the amount subscribed is still in the hands of the bankers, minus the 5s. per share.

The future plans of the company will be laid before the shareholders at their first general meeting, and everything submitted to their investigation and approval.

**To the Provisional Committee of the Bristol and Poole Harbour Railway Company.**  
I request you will allot me shares of £20 each, in the above undertaking, agreeably to the prospectus; and I agree to accept such shares as may be allotted me on the terms above mentioned, and also to pay the deposit thereon, and to sign the Parliamentary contract and subscribers' agreement, when required.—Dated the day of 1846.

Name.....  
Residence.....  
Trade or profession.....  
Reference.....  
Address of reference.....

\* Applications for shares may be made, in the above form, at the offices of the company, 55, King William-street, City; Gilbert Stephens, Esq., 13, Northumberland-street, Strand; Messrs. Castleman and Kingdon, solicitors, Wimbome; T. Hyatt, Esq., solicitor, Shepton Mallet; S. Smith, Esq., Blandford; and M. K. Welch, Esq., solicitor, Poole.

**WHEEL CURTIS COPPER MINING COMPANY, in the PARISH OF CROWAN, NEAR CAMBORNE, CORNWALL.**  
In 6000 shares, of £4 each.—Deposit £1 10s. per share.

**PROVISIONAL DIRECTORS.**  
GEORGE PILKINGTON, Esq., C.E., late Captain Royal Engineers.  
GEORGE EVANS, Esq., C.E.  
(Other shareholders will be shortly published.)  
**BANKERS.**—Messrs. Cunliffe, Brooks, Cunliffe, and Co.  
**SOLICITORS.**—Henry Bull, Esq.  
**SECRETARY.**—E. Mills, Esq.

This mine is in its infancy—the shaft being now only at the depth of 47 fathoms below the adit; nevertheless, it has already produced upwards of £10,000 by its copper ore—one-half of which was the late Mr. Thomas Teague, of Redruth, the celebrated mining captain, who worked this mine at his own individual cost, appears to have expended in carrying on the works; so that, by reason of his decease, he left the mine at the very point to which his hopes of wealth had been directed, and at a time when she was very productive, according to Messrs. Vian's report, as in prospectus.

It having become necessary to fork the mine, and to sink a new shaft to the westward of the present one, directly over a rich bed of ore, mentioned in the report of Capt. Richard Rowe and Mr. Henry Thomas, F.G.S., and to open new and deeper levels, as well as to work effectually those already made, which Capt. Teague's decease prevented him accomplishing, and to carry on which works a powerful 70-horse engine has been required; therefore, it is proposed to form a company to carry out these objects, for which purpose it has been determined to distribute the interest of this mine into 6000 shares, of £4 each, of which 3000 are to be appropriated for advances already made in putting it in its present state of forwardness, and the remaining 3000 are to be sold and appropriated for the above purposes, upon the delivery of which a deposit of £1 10s. per share will be required. It is anticipated that the deposit on the 3000 shares will be adequate to the success of the undertaking, but should any further call be required, a general meeting of the shareholders will be summoned, when a statement of the affairs of the company will be submitted, and the holders of the 6000 shares will be required to answer any call that may be made at such meeting, or forfeit their shares.

No call to be made before the end of three months, and such call not to exceed the sum of 6s. per share. No responsibility will attach to any shareholder, beyond the deposits paid, and the calls to be made on the shares.

It is a well-known fact that shares in mines recently opened under inferior prospects to those which Wheel Curtis presents were purchased at as low a price as those now offered to the public, and have since realised £500 and upwards per share; and such is the confidence of the committee in the capabilities of this mine, that they have taken upon themselves to purchase at auction the splendid 70-horse engine of the Halloweale Mine, its boilers, pumps, and other materials, by which £1000 at least has been saved to the company; they are also pushing forward the proposed works with vigour.

The business of the company will be under the control of a committee of shareholders, of whom three shall form a quorum, and subject to such rules and regulations as may hereafter be determined. These to be selected from the best applicants for the 3000 shares now to be issued; and, before taking office, they shall be assured of the correctness of the statements herein made.

The mine is taken with a lease of 21 years from December 26, 1845, does reduced to 1-18. To prevent any suspicion of partiality in the allotting of the shares, each applicant of good reference will immediately receive a letter of allotment for the whole amount of shares required, which, if not promptly paid into the bankers on the day prescribed in the said letter, will be granted to the next unsupplied applicant.

Reports of well-known mining captains will be found in prospectus, and any further information will be afforded at the offices, Gresham-rooms, Basinghall-street, where specimens of the ore may be seen.

Application for shares to be made, at the above offices, to  
E. MILLS, Secretary pro tem.

**WHEEL CURTIS COPPER MINING COMPANY.**  
FINANCIAL ANNOUNCEMENT.

The £4500 to be raised by the deposit on the shares issued to the public will be applied, without deduction for rent of offices, salaries, or allowances to directors, or other officers connected with the direction of the company, (they having consented to forego all claim to the same, until the working of the mine shall exhibit a profit to the shareholders), to the purposes stated in the following summary, as follows:

A 70-h. engine with boilers.....	£1250
Engine-house £360, timber £500.....	860
Ropes, chains, whips, &c.....	600
Pumps and pump-work.....	500
Captain's salary and labour for four months.....	500
Captain's shears, flat rods £150, iron and steel £150.....	300
Excavating new shaft to adit £50, carriage of materials £120.....	170

Total.....£4550

Shareholders holding 200 shares will be invited to become directors in the company, under such provisions in the deed establishing it as will protect them from all responsibility beyond the amount of their shares; and a statement of receipts and payments will be printed for circulation, on the first day of every month, and given to every shareholder on application.

The directors hold themselves as a responsible body, and abominate every thing like secrecy in the transactions of public business, believing that such a system, however legal, is pregnant with danger to their own characters.

Application for shares to be made at the offices of George Pilkington, Esq., managing director, Gresham Rooms, Basinghall-street, addressed to  
E. MILLS, Sec.

**NOTICE.—WHEEL CURTIS COPPER MINING COMPANY.—(PROVISIONALLY REGISTERED.)**—The Provisional Directors of this mine have the gratification to inform the public, that they have already allotted the greater portion of shares intended to be issued. No applications will be received after the 15th inst.

Applications for shares to be made at the offices of George Pilkington, Esq., Managing Director, Gresham-rooms, Basinghall-street, addressed to  
E. MILLS, Sec.

October 1, 1846.

**THE PROJECTED RAILWAYS.**

**PATENT METALLIC SAND OR ENGLISH POZZOLANO.**

—The PROPRIETORS OF THE METALLIC SAND, after many years' experience of its merits, confidently RECOMMEND it to the attention of Engineers, Architects, Builders, and the public generally, as an invaluable article for HYDRAULIC AND OTHER WORKS requiring great strength and durability.

In analysis, the metallic sand is very similar to the Italian Pozzolano—the value of which, in all subsequent works, is well known to engineers and architects; but from its granular form, and the sharpness of its angles, and the increased quantity of iron it contains, the metallic sand has been found more durable, and much cheaper than any other similar material at present in use.

From its chemical qualities it forms, in admixture with lime and common sand, a cement, mortar, or concrete, of fine hardness, and almost entire impenetrability; and from its adhesive and impervious qualities, it completely and for ever excludes water. The more it is exposed to the atmosphere, and to wet and damp, the harder and more durable it becomes. In the formation of mortar and concrete, it has been extensively used in the great tunnels on the London and Birmingham Railway, in the foundations of the New Houses of Parliament, sea walls on the North Devon Railway, Clifton Reservoirs, and other works of importance.

As an external stucco, the metallic sand cement is unaffected by frost or wet; in appearance it resembles the best Portland stone; requires, therefore, neither colour nor paint, and is entirely free from vegetative cracks and blisters, to which Roman cement is liable.

Further information will be given, and specimens shown, on application to Mr. C. K. Dyer, 4, New Broad-street; and at the Metallic Cement Wharf, King's Road (opposite Frat-street), Camden New Town, London.

**ANALYSIS OF THE PATENT METALLIC SAND.**

Silica.....	49	Lime.....	6
Oxide of iron.....	32	Magnesia.....	2
Alumina.....	6	Zinc.....	3
Arsenic and carbonate of copper.....	2		

**EMERSON'S PATENT CEMENT PAINT, PATENT CEMENT AND PAINT MANUFACTORY, AND STEAM-MILLS, 20, CREIGHTON-STREET, DUBLIN.**

LOWER END OF TOWNSEND-STREET, DUBLIN.

The PATENTEES have just completed their arrangements for the introduction of this VALUABLE AND ECONOMIC PAINT. It is perfectly waterproof, and being in a liquid or paste state, may be applied at once from the cask, by any simple workman, with a common paint-brush—thinning it, as may be requisite, with water.

The surface to which it is to be applied needs no preparation, but to be clean and free from dust. It matters not whether the walls be wet or dry, its adhesiveness being such that it will cling to any surface—brick, stone, slate, tile, or Roman cement, and may be made of ANY TINT OR COLOUR, to suit the taste of the consumer—its present colour being that of a light creamy, or stone, colour.

To Roman cement it may be applied the day after it is put on the walls, and one small tank will cover a moderate-sized house.

It is particularly calculated for country houses, villas, &c., from its permanency and pleasing effect; also for lodges and entrances, as it does not absorb moisture; and, consequently, will preserve the walls as effectively as any cement.

FOR ROOFS.—All loose or vegetated mortar should be removed, then apply the paint, with a brush, stopping up all holes or crevices, which will cement the entire roof in one solid mass, so as to render it perfectly impervious to water for many years to come.

Sold at the manufactory, in iron-bound casks, containing 1 cwt., at 6s. 6d.; 2 cwt., 12s.; 3 cwt., 17s. 6d.

N.B.—The paint can be sent by steamers every day, to London, Liverpool, Bristol, or Glasgow, at a trifling expense.

**GREAT BRITAIN MUTUAL LIFE ASSURANCE SOCIETY, 14, WATERLOO-PLACE, LONDON.**

**DIRECTORS.**  
THE CHISHOLM, Chairman | WM. MORLEY, Esq., Deputy-Chairman

**HALF CREDIT RATES OF PREMIUM.**  
The attention of ASSURERS is particularly directed to the Half Credit Rates of Premium, by which means assurance may be obtained, and loans for short periods secured with the least possible present outlay, and at a less premium than for short terms only, with the option of paying up the arrears and interest—thus becoming entitled to participate in the whole of the profit of the institution.

**Extract from the Half Credit Rates of Premium.**

Age 20.	Age 30.	Age 40.	Age 50.	Age 60.
£0 17 0	£1 1 1	£1 8 2	£2 1 0	£3 4 2

Thus £1000 may be assured at the age